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<110> CHUGAI SEIYAKU KABUSHIKI KAISHA

<120> ANTI-MPL ANTIBODIES

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<170> PatentIn version 3.1

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Thr Asn Ser Trp Met Asn Trp Val Arg Gln Arg Pro Gly Lys Gly Leu
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Glu Trp Met Gly Arg Ile Tyr Pro Gly Asp Gly Glu Thr Ile Tyr Asn
65 70 75 80

Gly Lys Phe Arg Val Arg Val Thr Ile Thr Ala Asp Glu Ser Thr Ser
85 90 95

Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val
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Tyr Tyr Cys Ala Arg Gly Tyr Asp Asp Tyr Ser Phe Ala Tyr Trp Gly
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Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Ser Gly Gly
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Gly Gly Ser Gly Gly Gly Ser Asp Ile Val Met Thr Gln Ser Ala
145 150 155 160

Leu Ser Leu Pro Val Thr Pro Gly Glu Pro Ala Ser Ile Ser Cys Arg
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Ser Ser Lys Ser Leu Leu His Ser Asn Gly Asn Thr Tyr Leu Tyr Trp
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Phe Gln Gln Lys Pro Gly Gln Ser Pro Gln Leu Leu Ile Tyr Arg Met
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Ser Asn Leu Ala Ser Gly Val Pro Asp Arg Phe Ser Gly Ser
210 215 220

Gly Thr Ala Phe Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Val
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Gly Val Tyr Tyr Cys Met Gln His Ile Glu Tyr Pro Phe Thr Phe Gly
245 250 255

Gln Gly Thr Lys Leu Glu Ile Lys Gly Gly Gly Ser Gly Gly Gly
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Glu Val Lys Lys Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser
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Gly Lys Gly Leu Glu Trp Met Gly Arg Ile Tyr Pro Gly Asp Gly Glu
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Glu Ser Thr Ser Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu
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Asp Thr Ala Val Tyr Tyr Cys Ala Arg Gly Tyr Asp Asp Tyr Ser Phe
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Ala Tyr Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly
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Gly Ser Gly Gly Gly Ser Gly Gly Gly Ser Asp Ile Val Met
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Thr Gln Ser Ala Leu Ser Leu Pro Val Thr Pro Gly Glu Pro Ala Ser
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Ile Tyr Arg Met Ser Asn Leu Ala Ser Gly Val Pro Asp Arg Phe Ser
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Gly Ser Gly Ser Gly Thr Ala Phe Thr Leu Lys Ile Ser Arg Val Glu
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Asp Tyr Trp Val Asn

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Asp Tyr Trp Met Asn

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Gly

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Arg Met Ser Asn Leu Ala Ser

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<212> PRT

<213> **Mus musculus**

<400> 111

Lys Ala Ser Gln Asn Val Gly Asn Ile Ile Ala

1 5 10

<210> 112

<211> 7

<212> PRT

<213> **Mus musculus**

<400> 112

Leu Ala Ser Tyr Arg Tyr Ser

1 5

<210> 113

<211> 9

<212> PRT

<213> *Mus musculus*

<400> 113

Gln Gln Tyr Ser Ser Ser Pro Leu Thr

1

5

<210> 114

<211> 12

<212> PRT

<213> *Mus musculus*

<400> 114

Ser Ala Ser Ser Ser Val Ser Ser Ser His Leu Tyr

1

5

10

<210> 115

<211> 7

<212> PRT

<213> *Mus musculus*

<400> 115

Ser Thr Ser Ser Asn Leu Ala Ser

1

5

<210> 116

<211> 9

<212> PRT

<213> *Mus musculus*

<400> 116

His Gln Trp Ser Ser Tyr Pro Trp Thr

1 5

<210> 117

<211> 354

<212> DNA

<213> *Mus musculus*

<400> 117

caggttcagc tgcagcagtc tggacctgag ctggtaagc ctggggcctc agtgaagatt 60

tcctgcaagg cttctggcta tgcattcact aactcctgga tgaactgggt gaagcagagg 120

cctggaaagg gtcttgagtg gattggacgg atttatcctg gagatggaga aactatctac 180

aatggaaat tcagggtaa ggccacactg actgcagaca aatcctccag cacagccctac 240

atggatatca gcagcctgac atctgaggac tctgcggtct acttctgtgc aagaggctat 300

gatgattact cgtttgctta ctggggccaa gggactctgg tcactgtctc tgca 354

<210> 118

<211> 118

<212> PRT

<213> *Mus musculus*

<400> 118

Gln Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Ala

1 5 10 15

Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Ala Phe Thr Asn Ser

20

25

30

Trp Met Asn Trp Val Lys Gln Arg Pro Gly Lys Gly Leu Glu Trp Ile

35

40

45

Gly Arg Ile Tyr Pro Gly Asp Gly Glu Thr Ile Tyr Asn Gly Lys Phe

50

55

60

Arg Val Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr

65

70

75

80

Met Asp Ile Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Phe Cys

85

90

95

Ala Arg Gly Tyr Asp Asp Tyr Ser Phe Ala Tyr Trp Gly Gln Gly Thr

100

105

110

Leu Val Thr Val Ser Ala

115

<210> 119

<211> 336

<212> DNA

<213> Mus musculus

<400> 119

gatattgtga tgactcaggc tgcaccctct atacctgtca ctccctggaga gtcagtatcc 60

atctcctgta ggtctagtaa gagtctcctg catagtaatg gcaacactta cttgtattgg 120
 ttccctgcaga gcccaggcca gtctcctcaa ctcctgatat atcggatgtc caaccttgc 180
 tcaggaggatcc cagatagggtt cagtggcagt gggtcaggaa ctgctttcac actgagaatc 240
 agtagagtggtt aggctgagga tttgggtttt tattactgta tgcaacatat agaatatcct 300
 tttacgttcg gatcggggac caagctggaa ataaaaa 336

<210> 120

<211> 112

<212> PRT

<213> *Mus musculus*

<400> 120

Asp Ile Val Met Thr Gin Ala Ala Pro Ser Ile Pro Val Thr Pro Gly
 1 5 10 15

Glu Ser Val Ser Ile Ser Cys Arg Ser Ser Lys Ser Leu Leu His Ser
 20 25 30

Asn Gly Asn Thr Tyr Leu Tyr Trp Phe Leu Gin Arg Pro Gly Gin Ser
 35 40 45

Pro Gin Leu Leu Ile Tyr Arg Met Ser Asn Leu Ala Ser Gly Val Pro
 50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Ala Phe Thr Leu Arg Ile

65	70	75	80
----	----	----	----

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln His	85	90	95
---	----	----	----

Ile Glu Tyr Pro Phe Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys	100	105	110
---	-----	-----	-----

<210> 121

<211> 762

<212> DNA

<213> *Mus musculus*

<400> 121

atggaatggc ctttgatctt tctcttcctc ctgtcagggaa ctgcagggtgt ccactcccgag	60
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gttcagctgc agcagtctgg acctgagctg gtgaaggctg gggcctcagt gaagatttcc	120
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tgcaaggctt ctggctatgc attcactaac tcctggatga actgggtgaa gcagaggcct	180
---	-----

ggaaagggtc ttgagtgat tggacggatt tatcctggag atggagaaac tatctacaat	240
--	-----

gggaaattca gggtaaggc cacactgact gcagacaaat cctccagcac agcctacatg	300
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gatatcagca gcctgacatc tgaggactct gcggctact tctgtgcaag aggctatgat	360
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gattactcgt ttgcttactg gggccaagg actctggtca ctgtctctgc aggtgggtgt	420
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ggttcggata ttgtgatgac tcaggctgca ccctctatac ctgtcactcc tggagagtca	480
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gtatccatct cctgtggc tagtaagagt ctccctgcata gtaatggcaa cacttacttg	540
--	-----

tattggttcc tgcagaggcc aggccaggtct cctcaactcc tgatatatcg gatgtccaa	600
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cttgcctcag gagtcccaga tagttcagt ggcagtgggt caggaactgc tttcacactg 660

agaatcagta gagtggaggc tgaggatgtg ggtgttatt actgtatgca acatataagaa 720

tatccttta cgttcggatc ggggaccaag ctggaaataa aa 762

<210> 122

<211> 254

<212> PRT

<213> *Mus musculus*

<400> 122

Met Glu Trp Pro Leu Ile Phe Leu Phe Leu Leu Ser Gly Thr Ala Gly

1 5 10 15

Val His Ser Gln Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys

20 25 30

Pro Gly Ala Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Ala Phe

35 40 45

Thr Asn Ser Trp Met Asn Trp Val Lys Gln Arg Pro Gly Lys Leu

50 55 60

Glu Trp Ile Gly Arg Ile Tyr Pro Gly Asp Gly Glu Thr Ile Tyr Asn

65 70 75 80

Gly Lys Phe Arg Val Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser

85

90

95

Thr Ala Tyr Met Asp Ile Ser Ser Leu Thr Ser Glu Asp Ser Ala Val

100

105

110

Tyr Phe Cys Ala Arg Gly Tyr Asp Asp Tyr Ser Phe Ala Tyr Trp Gly

115

120

125

Gln Gly Thr Leu Val Thr Val Ser Ala Gly Gly Gly Ser Asp Ile

130

135

140

Val Met Thr Gln Ala Ala Pro Ser Ile Pro Val Thr Pro Gly Glu Ser

145

150

155

160

Val Ser Ile Ser Cys Arg Ser Ser Lys Ser Leu Leu His Ser Asn Gly

165

170

175

Asn Thr Tyr Leu Tyr Trp Phe Leu Gln Arg Pro Gly Gln Ser Pro Gln

180

185

190

Leu Leu Ile Tyr Arg Met Ser Asn Leu Ala Ser Gly Val Pro Asp Arg

195

200

205

Phe Ser Gly Ser Gly Ser Gly Thr Ala Phe Thr Leu Arg Ile Ser Arg

210

215

220

Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln His Ile Glu

225

230

235

240

Tyr Pro Phe Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys

245

250

<210> 123

<211> 635

<212> PRT

<213> Homo sapiens

<400> 123

Met Pro Ser Trp Ala Leu Phe Met Val Thr Ser Cys Leu Leu Ala

1

5

10

15

Pro Gln Asn Leu Ala Gln Val Ser Ser Gln Asp Val Ser Leu Leu Ala

20

25

30

Ser Asp Ser Glu Pro Leu Lys Cys Phe Ser Arg Thr Phe Glu Asp Leu

35

40

45

Thr Cys Phe Trp Asp Glu Glu Ala Ala Pro Ser Gly Thr Tyr Gln

50

55

60

Leu Leu Tyr Ala Tyr Pro Arg Glu Lys Pro Arg Ala Cys Pro Leu Ser

65

70

75

80

Ser Gln Ser Met Pro His Phe Gly Thr Arg Tyr Val Cys Gln Phe Pro

85

90

95

Asp Gin Glu Glu Val Arg Leu Phe Phe Pro Leu His Leu Trp Val Lys
100 105 110

Asn Val Phe Leu Asn Gin Thr Arg Thr Gln Arg Val Leu Phe Val Asp
115 120 125

Ser Val Gly Leu Pro Ala Pro Pro Ser Ile Ile Lys Ala Met Gly Gly
130 135 140

Ser Gin Pro Gly Glu Leu Gin Ile Ser Trp Glu Glu Pro Ala Pro Glu
145 150 155 160

Ile Ser Asp Phe Leu Arg Tyr Glu Leu Arg Tyr Gly Pro Arg Asp Pro
165 170 175

Lys Asn Ser Thr Gly Pro Thr Val Ile Gin Leu Ile Ala Thr Glu Thr
180 185 190

Cys Cys Pro Ala Leu Gin Arg Pro His Ser Ala Ser Ala Leu Asp Gin
195 200 205

Ser Pro Cys Ala Gin Pro Thr Met Pro Trp Gin Asp Gly Pro Lys Gin
210 215 220

Thr Ser Pro Ser Arg Glu Ala Ser Ala Leu Thr Ala Glu Gly Gly Ser

225 230 235 240

Cys Leu Ile Ser Gly Leu Gln Pro Gly Asn Ser Tyr Trp Leu Gln Leu
245 250 255

Arg Ser Glu Pro Asp Gly Ile Ser Leu Gly Gly Ser Trp Gly Ser Trp
260 265 270

Ser Leu Pro Val Thr Val Asp Leu Pro Gly Asp Ala Val Ala Leu Gly
275 280 285

Leu Gln Cys Phe Thr Leu Asp Leu Lys Asn Val Thr Cys Gln Trp Gln
290 295 300

Gln Gln Asp His Ala Ser Ser Gln Gly Phe Phe Tyr His Ser Arg Ala
305 310 315 320

Arg Cys Cys Pro Arg Asp Arg Tyr Pro Ile Trp Glu Asn Cys Glu Glu
325 330 335

Glu Glu Lys Thr Asn Pro Gly Leu Gln Thr Pro Gln Phe Ser Arg Cys
340 345 350

His Phe Lys Ser Arg Asn Asp Ser Ile Ile His Ile Leu Val Glu Val
355 360 365

Thr Thr Ala Pro Gly Thr Val His Ser Tyr Leu Gly Ser Pro Phe Trp

370 375 380

Ile His Gin Ala Val Arg Leu Pro Thr Pro Asn Leu His Trp Arg Glu
385 390 395 400

Ile Ser Ser Gly His Leu Glu Leu Glu Trp Gin His Pro Ser Ser Trp
405 410 415

Ala Ala Gin Glu Thr Cys Tyr Gin Leu Arg Tyr Thr Gly Glu Gly His
420 425 430

Gln Asp Trp Lys Val Leu Glu Pro Pro Leu Gly Ala Arg Gly Gly Thr
435 440 445

Leu Glu Leu Arg Pro Arg Ser Arg Tyr Arg Leu Gin Leu Arg Ala Arg
450 455 460

Leu Asn Gly Pro Thr Tyr Gin Gly Pro Trp Ser Ser Trp Ser Asp Pro
465 470 475 480

Thr Arg Val Glu Thr Ala Thr Glu Thr Ala Trp Ile Ser Leu Val Thr
485 490 495

Ala Leu His Leu Val Leu Gly Leu Ser Ala Val Leu Gly Leu Leu Leu
500 505 510

Leu Arg Trp Gin Phe Pro Ala His Tyr Arg Arg Leu Arg His Ala Leu

515

520

525

Trp Pro Ser Leu Pro Asp Leu His Arg Val Leu Gly Gln Tyr Leu Arg
530 535 540

Asp Thr Ala Ala Leu Ser Pro Pro Lys Ala Thr Val Ser Asp Thr Cys
545 550 555 560

Glu Glu Val Glu Pro Ser Leu Leu Glu Ile Leu Pro Lys Ser Ser Glu
565 570 575

Arg Thr Pro Leu Pro Leu Cys Ser Ser Gln Ala Gln Met Asp Tyr Arg
580 585 590

Arg Leu Gln Pro Ser Cys Leu Gly Thr Met Pro Leu Ser Val Cys Pro
595 600 605

Pro Met Ala Glu Ser Gly Ser Cys Cys Thr Thr His Ile Ala Asn His
610 615 620

Ser Tyr Leu Pro Leu Ser Tyr Trp Gln Gln Pro
625 630 635

<210> 124

<211> 122

<212> PRT

<213> *Mus musculus*

<400> 124

Gln Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Ala

1 5 10 15

Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Ala Phe Ser Ser Ser

20 25 30

Trp Met Asn Trp Val Lys Gln Arg Pro Gly Lys Gly Leu Glu Trp Ile

35 40 45

Gly Arg Thr Tyr Pro Gly Asp Gly Asp Thr Asn Tyr Asn Gly Lys Phe

50 55 60

Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr

65 70 75 80

Met Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Phe Cys

85 90 95

Ala Arg Gly Trp Ile Leu Ala Asp Gly Gly Tyr Ser Phe Ala Tyr Trp

100 105 110

Gly Gln Gly Thr Leu Val Thr Val Ser Ala

115 120

<210> 125

<211> 112

<212> PRT

<213> *Mus musculus*

<400> 125

Asp Ile Val Met Thr Gln Ala Ala Pro Ser Ile Pro Val Thr Pro Gly
1 5 10 15

Glu Ser Val Ser Ile Ser Cys Arg Ser Ser Lys Ser Leu Leu His Ser
20 25 30

Asn Gly Asn Thr Tyr Leu Tyr Trp Phe Leu Gln Arg Pro Gly Gln Ser
35 40 45

Pro Gln Leu Leu Ile Tyr Arg Met Ser Asn Leu Ala Ser Gly Val Pro
50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Ala Phe Thr Leu Arg Ile
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Ile Tyr Tyr Cys Met Gln His
85 90 95

Leu Glu Tyr Pro Phe Thr Phe Gly Thr Gly Thr Lys Leu Glu Ile Lys
100 105 110

<210> 126

<211> 118

<212> PRT

<213> *Mus musculus*

<400> 126

Gln Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Ala Phe Ser Ser Ser
20 25 30

Trp Met Asn Trp Val Lys Gln Arg Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45

Gly Arg Ile Tyr Pro Gly Asp Gly Asp Thr Asn Tyr Asn Gly Lys Phe
50 55 60

Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr
65 70 75 80

Ile Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Phe Cys
85 90 95

Ala Arg Gly Tyr Ala Asp Tyr Ser Phe Ala Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ala
115

<210> 127

<211> 112

<212> PRT

<213> *Mus musculus*

<400> 127

Asp Ile Val Met Thr Gln Ala Ala Pro Ser Val Pro Val Thr Pro Gly

1 5 10 15

Glu Ser Val Ser Ile Ser Cys Arg Ser Ser Lys Ser Leu Leu His Ser

20 25 30

Asn Gly Asn Thr Tyr Leu Tyr Trp Phe Leu Gln Arg Pro Gly Gln Ser

35 40 45

Pro Gln Leu Leu Ile Tyr Arg Met Ser Asn Leu Ala Ser Gly Val Pro

50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Ala Phe Thr Leu Arg Ile

65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln His

85 90 95

Leu Glu Tyr Pro Tyr Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys

100 105 110

<210> 128

<211> 118

<212> PRT

<213> *Mus musculus*

<400> 128

Gln Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Ala

1 5 10 15

Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Ala Phe Ser Ser Ser

20 25 30

Trp Met Asn Trp Val Lys Gln Arg Pro Gly Lys Gly Leu Glu Trp Ile

35 40 45

Gly Arg Ile Tyr Pro Gly Asp Gly Glu Thr Asn Tyr Asn Gly Lys Phe

50 55 60

Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Asn Thr Ala Tyr

65 70 75 80

Met Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Phe Cys

85 90 95

Ala Arg Gly Phe Gly Asp Tyr Ser Phe Ala Tyr Trp Gly Gln Gly Thr

100 105 110

Leu Val Thr Val Ser Ala

115

<210> 129

<211> 112

<212> PRT

<213> Mus musculus

<400> 129

Asp Ile Val Met Thr Gin Ala Ala Pro Ser Val Pro Val Thr Pro Gly

1 5 10 15

Glu Ser Val Ser Ile Ser Cys Arg Ser Ser Lys Ser Leu Leu His Ser

20 25 30

Asn Gly Asn Thr Tyr Leu Tyr Trp Phe Leu Gin Arg Pro Gly Gin Ser

35 40 45

Pro Gin Leu Leu Ile Tyr Arg Met Ser Asn Leu Ala Ser Gly Ala Pro

50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Ala Phe Thr Leu Arg Ile

65 70 75 80

Ser Arg Val Glu Thr Glu Asp Val Gly Val Tyr Tyr Cys Met Gin His

85 90 95

Leu Glu Tyr Pro Tyr Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys

100 105 110

<210> 130

<211> 118

<212> PRT

<213> *Mus musculus*

<400> 130

Gln Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Ala

1

5

10

15

Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Thr Phe Ser Ser Ser

20

25

30

Trp Met Asn Trp Val Lys Gln Arg Pro Gly Lys Gly Leu Glu Trp Ile

35

40

45

Gly Arg Ile Tyr Pro Gly Asp Gly Asp Thr Asn Tyr Asn Gly Lys Phe

50

55

60

Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr

65

70

75

80

Met Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Phe Cys

85

90

95

Ala Ser Gly Tyr Ala Asp Tyr Ser Phe Ala Tyr Trp Gly Gln Gly Thr

100

105

110

Leu Val Thr Val Ser Ala

115

<210> 131

<211> 112

<212> PRT

<213> *Mus musculus*

<400> 131

Asp Ile Val Met Thr Gln Ala Ala Pro Ser Val Pro Val Thr Pro Gly

1 5 10

15

Glu Ser Val Ser Ile Ser Cys Arg Ser Ser Lys Ser Leu Leu His Ser

20 25 30

Asn Gly Asn Thr Tyr Leu Tyr Trp Phe Leu Gln Arg Pro Gly Gln Ser

35 40 45

Pro Gln Leu Leu Ile Tyr Arg Met Ser Asn Leu Ala Ser Gly Val Pro

50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Ala Phe Thr Leu Arg Ile

65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln His

85 90 95

Leu Glu Tyr Pro Tyr Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys
100 105 110

<210> 132

<211> 118

<212> PRT

<213> *Mus musculus*

<400> 132

Gln Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Ala Phe Ser Arg Ser
20 25 30

Trp Met Asn Trp Val Lys Gln Arg Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45

Gly Arg Ile Tyr Pro Gly Asp Gly Asp Thr Asn Tyr Asn Gly Lys Phe
50 55 60

Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr
65 70 75 80

Met Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Phe Cys
85 90 95

Ala Ser Gly Tyr Asp Asp Tyr Ser Phe Ala Tyr Trp Gly Gln Gly Thr

100

105

110

Leu Val Thr Val Ser Ala

115

<210> 133

<211> 112

<212> PRT

<213> *Mus musculus*

<400> 133

Asp Ile Val Met Thr Gln Ala Ala Pro Ser Val Pro Val Thr Pro Gly

1

5

10

15

Glu Ser Val Ser Ile Ser Cys Arg Ser Ser Lys Ser Leu Leu His Ser

20

25

30

Asn Gly Asn Thr Tyr Leu Tyr Trp Phe Leu Gln Arg Pro Gly Gln Ser

35

40

45

Pro Gln Leu Leu Ile Tyr Arg Met Ser Asn Leu Ala Ser Gly Val Pro

50

55

60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Ala Phe Thr Leu Arg Ile

65

70

75

80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln His

85

90

95

Leu Glu Tyr Pro Tyr Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys
 100 105 110

<210> 134

<211> 118

<212> PRT

<213> *Mus musculus*

<400> 134

Gln Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Ile Ser Cys Arg Ala Phe Gly Tyr Ala Phe Ser Asn Ser
 20 25 30

Trp Met Asn Trp Val Lys Gln Arg Pro Gly Lys Gly Leu Glu Trp Ile
 35 40 45

Gly Arg Ile Tyr Pro Gly Asp Gly Glu Thr Asn Asn Asn Gly Lys Phe
 50 55 60

Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr
 65 70 75 80

Met Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Phe Cys
 85 90 95

Ala Arg Gly Tyr Gly Asp Tyr Ser Phe Ala Tyr Trp Gly Gin Gly Thr

100

105

110

Leu Val Thr Val Ser Ala

115

<210> 135

<211> 112

<212> PRT

<213> *Mus musculus*

<400> 135

Asp Ile Val Met Thr Gin Ala Ala Pro Ser Val Pro Val Thr Pro Gly

1

5

10

15

Glu Ser Val Ser Ile Ser Cys Arg Ser Ser Lys Ser Leu Leu His Ser

20

25

30

Asn Gly Asn Thr Tyr Leu Tyr Trp Phe Leu Gin Arg Pro Gly Gin Ser

35

40

45

Pro Gin Leu Leu Ile Tyr Arg Met Ser Asn Leu Ala Ser Gly Val Pro

50

55

60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Ala Ala Phe Thr Leu Arg Ile

65

70

75

80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln His
 85 90 95

Leu Glu Tyr Pro Tyr Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys
 100 105 110

<210> 136
 <211> 115
 <212> PRT
 <213> *Mus musculus*
 <400> 136

Gln Val Gln Leu Gln Gln Pro Gly Ala Glu Leu Val Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Leu Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Tyr
 20 25 30

Trp Val Asn Trp Val Lys Gln Arg Pro Gly Arg Gly Leu Glu Trp Ile
 35 40 45

Gly Arg Ile His Pro Ser Asp Ser Glu Thr His Cys Asn Gln Lys Phe
 50 55 60

Lys Arg Lys Ala Thr Leu Thr Val Asn Lys Ser Ser Ser Thr Ala Tyr
 65 70 75 80

Ile Gln Leu His Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys

85

90

95

Thr Ser Gly Gly Trp Phe Ala Tyr Trp Gly Gln Gly Thr Leu Val Thr

100

105

110

Val Ser Ala

115

<210> 137

<211> 112

<212> PRT

<213> Mus musculus

<400> 137

Asp Ile Val Met Thr Gln Ala Ala Pro Ser Val Pro Val Thr Pro Gly

1

5

10

15

Glu Ser Val Ser Ile Ser Cys Arg Ser Ser Lys Ser Leu Leu Tyr Ser

20

25

30

Asn Gly Asn Ile Tyr Leu Tyr Trp Phe Leu Gln Arg Pro Gly Gln Ser

35

40

45

Pro Gln Leu Leu Ile Tyr Arg Met Ser Asn Leu Ala Ser Gly Val Pro

50

55

60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Ala Phe Thr Leu Arg Ile

65

70

75

80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln His
 85 90 95

Leu Glu Tyr Pro Tyr Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys
100 105 110

<210> 138
 <211> 118
 <212> PRT
 <213> *Mus musculus*
 <400> 138

Gln Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Ala Phe Ser Ser Ser
20. 25 30

Trp Met Asn Trp Val Lys Gln Arg Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45

Gly Arg Ile Tyr Pro Gly Asp Gly Glu Thr Asn Asn Asn Gly Lys Phe
50 55 60

Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Thr Thr Ala Tyr
65 70 75 80

Met Gin Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Phe Cys

85

90

95

Ala Arg Gly Tyr Gly Asp Tyr Ser Phe Ala Tyr Trp Gly Gin Gly Thr

100

105

110

Leu Val Thr Val Ser Ala

115

<210> 139

<211> 112

<212> PRT

<213> *Mus musculus*

<400> 139

Asp Ile Val Met Thr Gin Ala Ala Pro Ser Val Pro Val Thr Pro Gly

1

5

10

15

Glu Ser Val Ser Ile Ser Cys Arg Ser Ser Lys Ser Leu Leu His Ser

20

25

30

Asn Gly Asn Thr Tyr Leu Tyr Trp Phe Leu Gin Arg Pro Gly Gin Ser

35

40

45

Pro Gin Leu Leu Ile Tyr Arg Met Ser Asn Leu Ala Ser Gly Val Pro

50

55

60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Ala Ala Phe Thr Leu Arg Ile
 65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln His
 85 90 95

Leu Glu Tyr Pro Tyr Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys
 100 105 110

<210> 140

<211> 118

<212> PRT

<213> *Mus musculus*

<400> 140

Gln Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Ala Phe Ser Thr Ser
 20 25 30

Trp Met Asn Trp Val Lys Gln Arg Pro Gly Lys Gly Leu Glu Trp Ile
 35 40 45

Gly Arg Ile Tyr Pro Gly Asp Gly Glu Ala Asn Tyr Asn Gly Lys Phe
 50 55 60

Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Ala Tyr

65

70

75

80

Met Gin Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Phe Cys

85

90

95

Ala Arg Gly Tyr Gly Asp Tyr Ser Phe Ala Tyr Trp Gly Gin Gly Thr

100

105

110

Leu Val Thr Val Ser Ala

115

<210> 141

<211> 112

<212> PRT

<213> Mus musculus

<400> 141

Asp Ile Val Met Thr Gin Ala Ala Pro Ser Val Pro Val Thr Pro Gly

1

5

10

15

Glu Ser Val Ser Ile Ser Cys Arg Ser Ser Lys Ser Leu Leu His Ser

20

25

30

Asn Gly Asn Thr Tyr Leu Tyr Trp Phe Met Gin Arg Pro Gly Gin Ser

35

40

45

Pro Gin Leu Leu Ile Tyr Arg Met Ser Asn Leu Ala Ser Gly Val Pro

50

55

60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Ala Phe Thr Leu Arg Ile
 65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln His
 85 90 95

Val Glu Tyr Pro Tyr Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys
 100 105 110

<210> 142

<211> 118

<212> PRT

<213> *Mus musculus*

<400> 142

Gln Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Ala Phe Ser Ser Ser
 20 25 30

Trp Met Asn Trp Val Lys Gln Arg Pro Gly Lys Gly Pro Glu Trp Ile
 35 40 45

Gly Arg Ile Tyr Pro Gly Asp Gly Glu Thr Asn Tyr Asn Gly Lys Phe
 50 55 60

Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Val Tyr
 65 70 75 80

Met Gin Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Phe Cys
 85 90 95

Ala Arg Gly Tyr Gly Asp Tyr Ser Phe Ala Tyr Trp Gly Gin Gly Thr
 100 105 110

Leu Val Thr Val Ser Ala
 115

<210> 143
 <211> 112
 <212> PRT
 <213> *Mus musculus*

<400> 143

Asp Ile Val Met Thr Gin Ala Ala Pro Ser Val Pro Val Thr Pro Gly
 1 5 10 15

Glu Ser Val Ser Ile Ser Cys Arg Ser Ser Lys Ser Leu Leu His Ser
 20 25 30

Asn Gly Asn Thr Tyr Leu Tyr Trp Phe Leu Gin Arg Pro Gly Gin Ser
 35 40 45

Pro Gln Leu Leu Ile Tyr Arg Met Ser Asn Leu Ala Ser Gly Val Pro

50 55 60

Asp Arg Phe Ser Gly Ser Gly Thr Ala Phe Thr Leu Arg Ile

65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln His

85 90 95

Leu Glu Tyr Pro Tyr Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys

100 105 110

<210> 144

<211> 118

<212> PRT

<213> Mus musculus

<400> 144

Gln Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Leu Asn Pro Gly Ala

1 5 10 15

Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Ala Phe Ser Arg Ser

20 25 30

Trp Met Asn Trp Val Lys Gln Arg Pro Gly Lys Gly Leu Glu Trp Ile

35 40 45

Gly Arg Ile Tyr Pro Gly Asp Gly Glu Thr Asn Tyr Asn Gly Lys Phe

50 55 60

Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Thr Thr Ala Tyr
 65 70 75 80

Met Gin Phe Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Phe Cys
 85 90 95

Ala Arg Gly Asp Gly Asp Tyr Ser Phe Ala Tyr Trp Gly Gin Gly Thr
 100 105 110

Leu Val Thr Val Ser Ala
 115

<210> 145
 <211> 112
 <212> PRT
 <213> *Mus musculus*

<400> 145

Asp Ile Val Met Thr Gin Ala Ala Pro Ser Val Pro Val Thr Pro Gly
 1 5 10 15

Glu Ser Val Ser Ile Ser Cys Arg Ser Ser Lys Ser Leu Leu His Ser
 20 25 30

Asn Gly Asn Thr Tyr Leu Tyr Trp Phe Leu Gin Arg Pro Gly Gin Ser

35

40

45

Pro Gln Leu Leu Ile Tyr Arg Met Ser Asn Leu Ala Ser Gly Val Pro

50

55

60

Asp Arg Phe Ser Gly Ser Gly Thr Ala Phe Thr Leu Arg Ile

65

70

75

80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln His

85

90

95

Leu Glu Tyr Pro Tyr Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys

100

105

110

<210> 146

<211> 115

<212> PRT

<213> Mus musculus

<400> 146

Gln Val Gln Leu Gln Gln Pro Gly Thr Glu Leu Val Arg Pro Gly Ala

1

5

10

15

Ser Val Lys Leu Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr

20

25

30

Trp Val Asn Trp Val Lys Gln Arg Pro Gly Arg Gly Leu Glu Trp Ile

35

40

45

Gly Arg Ile His Pro Tyr Asp Ser Glu Thr His Tyr Asn Gln Lys Phe

50 55 60

Lys Asn Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Ser Thr Ala Tyr

65 70 75 80

Ile Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys

85 90 95

Ala Ser Gly Gly Trp Phe Ala Ser Trp Gly Gln Gly Thr Leu Val Thr

100 105 110

Val Ser Ala

115

<210> 147

<211> 112

<212> PRT

<213> *Mus musculus*

<400> 147

Asp Ile Val Met Thr Gln Ala Ala Pro Ser Val Pro Val Thr Pro Gly

1 5 10 15

Glu Ser Val Ser Ile Ser Cys Arg Ser Ser Lys Ser Leu Leu Tyr Ser

20 25 30

Asn Gly Asn Thr Tyr Leu Tyr Trp Phe Leu Gln Arg Pro Gly Gln Ser

35 40 45

Pro Gln Leu Leu Ile Tyr Arg Met Ser Asn Leu Ala Ser Gly Val Pro

50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Ala Phe Thr Leu Thr Ile

65 70 75 80

Ser Ser Val Glu Ala Glu Asp Val Gln Val Tyr Tyr Cys Met Gln His

85 90 95

Leu Glu Tyr Pro Tyr Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys

100 105 110

<210> 148

<211> 115

<212> PRT

<213> *Mus musculus*

<400> 148

Gln Val Gln Leu Gln Gln Pro Gly Ala Glu Leu Val Lys Pro Gly Ala

1 5 10 15

Ser Val Lys Leu Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asp Tyr

20 25 30

Trp Met Asn Trp Val Lys Gin Arg Pro Gly Arg Gly Leu Glu Trp Ile
 35 40 45

Gly Arg Ile His Pro Phe Asp Ser Glu Thr His Cys Ser Gin Lys Phe
 50 55 60

Lys Asn Lys Ala Thr Leu Thr Val Asp Lys Ser Ser Asn Thr Ala Tyr
 65 70 75 80

Ile Gin Phe Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Tyr Cys
 85 90 95

Ser Ser Gly Gly Trp Phe Ala Tyr Trp Gly Gin Gly Thr Leu Val Thr
 100 105 110

Val Ser Ala

115

<210> 149

<211> 112

<212> PRT

<213> *Mus musculus*

<400> 149

Asp Ile Val Met Thr Gin Ala Ala Pro Ser Val Ser Val Thr Pro Gly
 1 5 10 15

Glu Ser Val Ser Ile Ser Cys Arg Ser Ser Lys Ser Leu Leu Tyr Ser

20

25

30

Asn Gly Asn Ile Tyr Leu Tyr Trp Phe Leu Gln Arg Pro Gly Gln Ser

35

40

45

Pro Gln Leu Leu Ile Tyr Arg Met Ser Asn Leu Ala Ser Gly Val Pro

50

55

60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Ala Phe Thr Leu Lys Ile

65

70

75

80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln His

85

90

95

Leu Glu Tyr Pro Tyr Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys

100

105

110

<210> 150

<211> 118

<212> PRT

<213> Mus musculus

<400> 150

Gln Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Ala

1

5

10

15

Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Ala Phe Thr Asn Ser

20

25

30

Trp Met Asn Trp Val Arg Gln Arg Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45

Gly Arg Ile Tyr Pro Gly Asp Gly Glu Thr Ile Tyr Asn Gly Lys Phe
50 55 60

Arg Val Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr
65 70 75 80

Met Glu Ile Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Phe Cys
85 90 95

Ala Arg Gly Tyr Asp Asp Tyr Ser Phe Ala Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ala
115

<210> 151
<211> 112
<212> PRT
<213> *Mus musculus*

<400> 151

Asp Ile Val Met Thr Gln Ala Ala Pro Ser Val Pro Val Thr Pro Gly
1 5 10 15

Glu Ser Val Ser Ile Ser Cys Arg Ser Ser Lys Ser Leu Leu His Asn

20. 25 30

Asn Gly Asn Thr Tyr Leu Tyr Trp Phe Leu Gln Arg Pro Gly Gln Ser

35 40 45

Pro Gln Leu Leu Ile Tyr Arg Met Ser Asn Leu Ala Ser Gly Val Pro

50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Ala Phe Thr Leu Arg Ile

65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln His

85 90 95

Ile Glu Tyr Pro Phe Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys

100 105 110

<210> 152

<211> 118

<212> PRT

<213> *Mus musculus*

<400> 152

Gln Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys Pro Gly Ala

1 5 10 15

Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Ala Phe Ser Asn Ser
20 25 30

Trp Met Asn Trp Val Asn Gln Arg Pro Gly Lys Gly Leu Glu Trp Ile
35 40 45

Gly Arg Ile Tyr Pro Gly Asp Gly Asp Thr Ile Tyr Asn Gly Asn Phe
50 55 60

Lys Gly Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser Ile Ala Tyr
65 70 75 80

Met Gln Leu Ser Ser Leu Thr Ser Glu Asp Ser Ala Val Tyr Phe Cys
85 90 95

Thr Ser Gly Tyr Asp Asp Tyr Ser Phe Ala Tyr Trp Gly Gln Gly Thr
100 105 110

Leu Val Thr Val Ser Ala
115

<210> 153

<211> 112

<212> PRT

<213> *Mus musculus*

<400> 153

Asp Ile Val Met Thr Gln Ala Ala Pro Ser Leu Pro Val Thr Pro Gly

1 5 10 15

Glu Ser Val Ser Ile Ser Cys Arg Ser Ser Lys Ser Leu Leu His Ser
20 25 30

Asn Gly Asn Thr Tyr Leu Tyr Trp Phe Leu Gln Arg Pro Gly Gln Ser
35 40 45

Pro Gln Leu Leu Ile Tyr Arg Met Ser Asn Leu Ala Ser Gly Val Pro
50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Ala Phe Thr Leu Arg Ile
65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln His
85 90 95

Leu Glu Tyr Pro Tyr Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys
100 105 110

<210> 154

<211> 423

<212> DNA

<213> *Mus musculus*

<220>

<221> CDS

<222> (1)...(423)

<223>

<400> 154

atg gtt ctt gcc agc tct acc acc agc atc cac acc atg ctg ctc ctg 48
 Met Val Leu Ala Ser Ser Thr Thr Ser Ile His Thr Met Leu Leu Leu
 1 5 10 15

ctc ctg atg ctg gcc cag ccg gcc atg gcg gaa gtg aag ctg gtg gag 96
 Leu Leu Met Leu Ala Gln Pro Ala Met Ala Glu Val Lys Leu Val Glu
 20 25 30

tct ggg gga ggc tta gtg aag cct gga ggg tcc cgg aaa ctc tcc tgt 144
 Ser Gly Gly Gly Leu Val Lys Pro Gly Gly Ser Arg Lys Leu Ser Cys
 35 40 45

gca gcc tct gga ttc act ttc agt agc tat acc atg tct tgg gtt cgc 192
 Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Thr Met Ser Trp Val Arg
 50 55 60

cag act ccg gcg aag agg ctg gag tgg gtc gca acc att agt agt ggc 240
 Gln Thr Pro Ala Lys Arg Leu Glu Trp Val Ala Thr Ile Ser Ser Gly
 65 70 75 80

agt agt acc atc tac tat gca gac aca gtg aag ggc cga ttc acc atc 288
 Ser Ser Thr Ile Tyr Tyr Ala Asp Thr Val Lys Gly Arg Phe Thr Ile
 85 90 95

tcc aga gac aat gcc aag aac acc ctg ttc ctg caa atg acc agt cta 336
 Ser Arg Asp Asn Ala Lys Asn Thr Leu Phe Leu Gln Met Thr Ser Leu
 100 105 110

agg tct gag gac aca gcc atg tat tac tgt gca agg aga tgg ttt ctt 384
 Arg Ser Glu Asp Thr Ala Met Tyr Tyr Cys Ala Arg Arg Trp Phe Leu
 115 120 125

gac tgc tgg ggc caa ggc acc act ctc aca gtc tcc tgg 423
 Asp Cys Trp Gly Gln Gly Thr Thr Leu Thr Val Ser Ser
 130 135 140

<210> 155
 <211> 141
 <212> PRT
 <213> Mus musculus
 <400> 155

Met Val Leu Ala Ser Ser Thr Thr Ser Ile His Thr Met Leu Leu Leu
 1 5 10 15

Leu Leu Met Leu Ala Gln Pro Ala Met Ala Glu Val Lys Leu Val Glu
 20 25 30

Ser Gly Gly Gly Leu Val Lys Pro Gly Gly Ser Arg Lys Leu Ser Cys
 35 40 45

Ala Ala Ser Gly Phe Thr Phe Ser Ser Tyr Thr Met Ser Trp Val Arg
 50 55 60

Gln Thr Pro Ala Lys Arg Leu Glu Trp Val Ala Thr Ile Ser Ser Gly
 65 70 75 80

Ser Ser Thr Ile Tyr Tyr Ala Asp Thr Val Lys Gly Arg Phe Thr Ile
 85 90 95

Ser Arg Asp Asn Ala Lys Asn Thr Leu Phe Leu Gin Met Thr Ser Leu
 100 105 110

Arg Ser Glu Asp Thr Ala Met Tyr Tyr Cys Ala Arg Arg Trp Phe Leu
 115 120 125

Asp Cys Trp Gly Gin Gly Thr Thr Leu Thr Val Ser Ser
 130 135 140

<210> 156

<211> 357

<212> DNA

<213> *Mus musculus*

<220>

<221> CDS

<222> (1)...(357)

<223>

<400> 156

gat att gtg ctc acc caa tct cca gct tct ttg gct gtg tct cta ggg 48
 Asp Ile Val Leu Thr Gin Ser Pro Ala Ser Leu Ala Val Ser Leu Gly
 1 5 10 15

cag agt gtc acc atc tcc tgc aga gcc agt gaa agt gtt gaa tat tat 96
 Gin Ser Val Thr Ile Ser Cys Arg Ala Ser Glu Ser Val Glu Tyr Tyr
 20 25 30

ggc act agt tta atg cag tgg tac caa cag aaa cca gga cag cca ccc 144
 Gly Thr Ser Leu Met Gin Trp Tyr Gin Gin Lys Pro Gly Gin Pro Pro
 35 40 45

aaa ctc ctc atc tat ggt gca tcc aac gta gaa tct ggg gtc cct gcc 192

Lys	Leu	Leu	Ile	Tyr	Gly	Ala	Ser	Asn	Val	Glu	Ser	Gly	Val	Pro	Ala	
50									60							
agg ttt agt ggc agt ggg tct ggg aca gac ttc agc ctc aac atc cat															240	
Arg	Phe	Ser	Gly	Ser	Gly	Ser	Gly	Thr	Asp	Phe	Ser	Leu	Asn	Ile	His	
65									75				80			
cct gtg gag gag gat gat att gca atg tat ttc tgt cag caa agt agg															288	
Pro	Val	Glu	Glu	Asp	Asp	Ile	Ala	Met	Tyr	Phe	Cys	Gln	Gln	Ser	Arg	
									90				95			
aag gtt ccg tgg acg ttc ggt gga ggc acc aag ctg gaa ata aag gac															336	
Lys	Val	Pro	Trp	Thr	Phe	Gly	Gly	Gly	Thr	Lys	Leu	Glu	Ile	Lys	Asp	
									105				110			
tac aag gat gac gac gat aag															357	
Tyr	Lys	Asp	Asp	Asp	Asp	Lys										
									115							
<210> 157																
<211> 119																
<212> PRT																
<213> Mus musculus																
<400> 157																
Asp Ile Val Leu Thr Gln Ser Pro Ala Ser Leu Ala Val Ser Leu Gly																
1		5			10					15						
Gln Ser Val Thr Ile Ser Cys Arg Ala Ser Glu Ser Val Glu Tyr Tyr																
		20			25				30							
Gly Thr Ser Leu Met Gln Trp Tyr Gln Gln Lys Pro Gly Gln Pro Pro																

35

40

45

Lys Leu Leu Ile Tyr Gly Ala Ser Asn Val Glu Ser Gly Val Pro Ala

50

55

60

Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Ser Leu Asn Ile His

65

70

75

80

Pro Val Glu Glu Asp Asp Ile Ala Met Tyr Phe Cys Gin Gin Ser Arg

85

90

95

Lys Val Pro Trp Thr Phe Gly Gly Thr Lys Leu Glu Ile Lys Asp

100

105

110

Tyr Lys Asp Asp Asp Asp Lys

115

<210> 158

<211> 432

<212> DNA

<213> *Mus musculus*

<220>

<221> CDS

<222> (1).. (432)

<223>

<400> 158

atg gtt ctt gcc agc tct acc acc agc atc cac acc atg ctg ctc ctg

48

Met Val Leu Ala Ser Ser Thr Thr Ser Ile His Thr Met Leu Leu Leu

1	5	10	15	
ctc ctg atg ctg gcc cag ccg gcc atg gcg cag gtt cag ctc cag caa				96
Leu Leu Met Leu Ala Gln Pro Ala Met Ala Gln Val Gln Leu Gln Gln				
20	25	30		
tct gga cct gag ctg gtg aag cct ggg gcc tca gtg aag att tcc tgc				144
Ser Gly Pro Glu Leu Val Lys Pro Gly Ala Ser Val Lys Ile Ser Cys				
35	40	45		
aag gct tct ggc tat gca ttc agt agc tcc tgg atg aac tgg atg aag				192
Lys Ala Ser Gly Tyr Ala Phe Ser Ser Ser Trp Met Asn Trp Met Lys				
50	55	60		
cag agg cct gga aag ggt ctt gag tgg att ggg cgg att tat cct gga				240
Gln Arg Pro Gly Lys Gly Leu Glu Trp Ile Gly Arg Ile Tyr Pro Gly				
65	70	75	80	
gat gga gat act aac tac aat ggg aag ttc aag ggc aag gcc aca ctg				288
Asp Gly Asp Thr Asn Tyr Asn Gly Lys Phe Lys Gly Lys Ala Thr Leu				
85	90	95		
act gca gac aaa tcc tcc agc aca gcc tac atg caa ctc agc agc ctg				336
Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr Met Gln Leu Ser Ser Leu				
100	105	110		
aca tct gag gac tct gcg gtc tac ttc tgt gca aga gcg agg aaa act				384
Thr Ser Glu Asp Ser Ala Val Tyr Phe Cys Ala Arg Ala Arg Lys Thr				
115	120	125		
tcc tgg ttt gct tac tgg ggc caa ggg act ctg gtc act gtc tct gcg				432
Ser Trp Phe Ala Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ala				
130	135	140		

<211> 144

<212> PRT

<213> *Mus musculus*

<400> 159

Met Val Leu Ala Ser Ser Thr Thr Ser Ile His Thr Met Leu Leu Leu
1 5 10 15

Leu Leu Met Leu Ala Gin Pro Ala Met Ala Gin Val Gin Leu Gin Gin
20 25 30

Ser Gly Pro Glu Leu Val Lys Pro Gly Ala Ser Val Lys Ile Ser Cys
35 40 45

Lys Ala Ser Gly Tyr Ala Phe Ser Ser Ser Trp Met Asn Trp Met Lys
50 55 60

Gln Arg Pro Gly Lys Gly Leu Glu Trp Ile Gly Arg Ile Tyr Pro Gly
65 70 75 80

Asp Gly Asp Thr Asn Tyr Asn Gly Lys Phe Lys Gly Lys Ala Thr Leu
85 90 95

Thr Ala Asp Lys Ser Ser Ser Thr Ala Tyr Met Gln Leu Ser Ser Leu
100 105 110

Thr Ser Glu Asp Ser Ala Val Tyr Phe Cys Ala Arg Ala Arg Lys Thr
115 120 125

Ser Trp Phe Ala Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ala
 130 135 140

<210> 160

<211> 345

<212> DNA

<213> *Mus musculus*

<220>

<221> CDS

<222> (1)...(345)

<223>

<400> 160

gac att gtg ttg aca cag tct caa aaa ttc atg tcc aca tca gta gga 48
 Asp Ile Val Leu Thr Gln Ser Gln Lys Phe Met Ser Thr Ser Val Gly
 1 5 10 15

gac agg gtc agc atc agc tgc aag gcc agt cag aat gtg ggt aat att 96
 Asp Arg Val Ser Ile Ser Cys Lys Ala Ser Gln Asn Val Gly Asn Ile
 20 25 30

ata gcc tgg tat caa cag aaa cca ggg caa tct cct aaa gca ctg att 144
 Ile Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Lys Ala Leu Ile
 35 40 45

tac ttg gca tcc tac cgg tac agt gga gtc cct gat cgc ttc aca ggc 192
 Tyr Leu Ala Ser Tyr Arg Tyr Ser Gly Val Pro Asp Arg Phe Thr Gly
 50 55 60

agt gga tct ggg aca gat ttc act ctc acc att agt aat gtg cag tct 240
 Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Asn Val Gln Ser
 65 70 75 80

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Asn Val Gin Ser
 65 70 75 80

Glu Asp Leu Ala Glu Tyr Phe Cys Gin Gin Tyr Ser Ser Ser Pro Leu
 85 90 95

Thr Phe Gly Ala Gly Thr Lys Leu Glu Ile Lys Asp Tyr Lys Asp Asp
 100 105 110

Asp Asp Lys
 115

<210> 162
 <211> 116
 <212> PRT
 <213> *Mus musculus*

<400> 162

Asp Val Gin Leu Gin Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gin
 1 5 10 15

Ser Leu Ser Leu Thr Cys Thr Val Thr Gly Tyr Ser Ile Thr Ser Asp
 20 25 30

Tyr Ala Trp Ser Trp Ile Arg Gin Leu Pro Gly Asn Lys Leu Glu Trp
 35 40 45

Met Gly Tyr Ile Thr Tyr Ser Gly Tyr Ser Ile Tyr Asn Pro Ser Leu
 50 55 60

Lys Ser Arg Ile Ser Ile Ser Arg Asp Thr Ser Lys Asn Gln Leu Phe
 65 70 75 80

Leu Gln Leu Asn Ser Val Thr Thr Glu Asp Thr Ala Thr Tyr Tyr Cys
 85 90 95

Val Gly Gly Tyr Asp Asn Met Asp Tyr Trp Gly Gln Gly Thr Ser Val
 100 105 110

Thr Val Ser Ser
 115

<210> 163

<211> 108

<212> PRT

<213> *Mus musculus*

<400> 163

Gln Ile Val Leu Thr Gln Ser Pro Ala Ile Met Ser Ala Ser Pro Gly
 1 5 10 15

Glu Lys Val Thr Leu Thr Cys Ser Ala Ser Ser Ser Val Ser Ser Ser
 20 25 30

His Leu Tyr Trp Tyr Gln Gln Lys Pro Gly Ser Ser Pro Lys Leu Trp

35

40

45

Ile Tyr Ser Thr Ser Asn Leu Ala Ser Gly Val Pro Ala Arg Phe Ser
 50 55 60

Gly Ser Gly Ser Gly Thr Ser Tyr Ser Leu Thr Ile Ser Asn Met Glu
 65 70 75 80

Thr Glu Asp Ala Ala Ser Tyr Phe Cys His Gln Trp Ser Ser Tyr Pro
 85 90 95

Trp Thr Phe Gly Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 164

<211> 1924

<212> DNA

<213> Macaca fascicularis

<220>

<221> CDS

<222> (11).. (1918)

<223>

<400> 164

gaattccacc atg ccc tcc tgg gcc ctc ttc atg gtc acc tcc tgc ctc 49
 Met Pro Ser Trp Ala Leu Phe Met Val Thr Ser Cys Leu
 1 5 10

ctc ctg gcc cct caa aac ctg gcc caa gtc agc agc caa gat gtc tcc 97
 Leu Leu Ala Pro Gln Asn Leu Ala Gln Val Ser Ser Gln Asp Val Ser

15	20	25	
ttg ctg gcc tcg gac tca gag ccc ctg aag tgt ttc tcc cga aca ttt 145			
Leu Leu Ala Ser Asp Ser Glu Pro Leu Lys Cys Phe Ser Arg Thr Phe			
30	35	40	45
gag gac ctc act tgc ttc tgg gat gag gaa gag gca gca ccc agt ggg 193			
Glu Asp Leu Thr Cys Phe Trp Asp Glu Glu Glu Ala Ala Pro Ser Gly			
50	55	60	
aca tac cag ctg ctg tat gcc tac ccg ggg gag aag ccc cgt gcc tgc 241			
Thr Tyr Gln Leu Leu Tyr Ala Tyr Pro Gly Glu Lys Pro Arg Ala Cys			
65	70	75	
ccc ctg agt tct cag agc gtg ccc cgc ttt gga acc cga tac gtg tgc 289			
Pro Leu Ser Ser Gln Ser Val Pro Arg Phe Gly Thr Arg Tyr Val Cys			
80	85	90	
cag ttt cca gcc cag gaa gaa gtg cgt ctc ttc tct ccg ctg cac ctc 337			
Gln Phe Pro Ala Gln Glu Glu Val Arg Leu Phe Ser Pro Leu His Leu			
95	100	105	
tgg gtg aag aat gtg ttc cta aac cag act cag att cag cga gtc ctc 385			
Trp Val Lys Asn Val Phe Leu Asn Gln Thr Gln Ile Gln Arg Val Leu			
110	115	120	125
ttt gtg gac agt gta ggc ctg ccg gct ccc ccc agt atc atc aag gcc 433			
Phe Val Asp Ser Val Gly Leu Pro Ala Pro Pro Ser Ile Ile Lys Ala			
130	135	140	
atg ggt ggg agc cag cca ggg gaa ctt cag atc agc tgg gag gcc cca 481			
Met Gly Gly Ser Gln Pro Gly Glu Leu Gln Ile Ser Trp Glu Ala Pro			
145	150	155	
gct cca gaa atc agt gat ttc ctg agg tac gaa ctc cgc tat ggc ccc 529			
Ala Pro Glu Ile Ser Asp Phe Leu Arg Tyr Glu Leu Arg Tyr Gly Pro			

160	165	170	
aaa gat ctc aag aac tcc act ggt ccc acg gtc ata cag ttg atc gcc			577
Lys Asp Leu Lys Asn Ser Thr Gly Pro Thr Val Ile Gin Leu Ile Ala			
175	180	185	
aca gaa acc tgc tgc cct gct ctg cag agg cca cac tca gcc tct gct			625
Thr Glu Thr Cys Cys Pro Ala Leu Gin Arg Pro His Ser Ala Ser Ala			
190	195	200	205
ctg gac cag tct cca tgt gct cag ccc aca atg ccc tgg caa gat gga			673
Leu Asp Gin Ser Pro Cys Ala Gin Pro Thr Met Pro Trp Gin Asp Gly			
210	215	220	
cca aag cag acc tcc cca act aga gaa gct tca gct ctg aca gca gtg			721
Pro Lys Gin Thr Ser Pro Thr Arg Glu Ala Ser Ala Leu Thr Ala Val			
225	230	235	
ggg gga agc tgc ctc atc tca gga ctc cag cct ggc aac tcc tac tgg			769
Gly Gly Ser Cys Leu Ile Ser Gly Leu Gin Pro Gly Asn Ser Tyr Trp			
240	245	250	
ctg cag ctg cgc agc gaa cct gat ggg atc tcc ctc ggt ggc tcc tgg			817
Leu Gin Leu Arg Ser Glu Pro Asp Gly Ile Ser Leu Gly Gly Ser Trp			
255	260	265	
gga tcc tgg tcc ctc cct gtg act gtg gac ctg cct gga gat gca gtg			865
Gly Ser Trp Ser Leu Pro Val Thr Val Asp Leu Pro Gly Asp Ala Val			
270	275	280	285
gca att gga ctg caa tgc ttt acc ttg gac ctg aag aat gtt acc tgt			913
Ala Ile Gly Leu Gin Cys Phe Thr Leu Asp Leu Lys Asn Val Thr Cys			
290	295	300	
caa tgg cag caa gag gac cat gct agt tcc caa ggt ttc ttc tac cac			961
Gin Trp Gin Gin Glu Asp His Ala Ser Ser Gin Gly Phe Phe Tyr His			

305	310	315	
agc agg gca cgg tgc tgc ccc aga gac agg tac ccc atc tgg gag gac			1009
Ser Arg Ala Arg Cys Cys Pro Arg Asp Arg Tyr Pro Ile Trp Glu Asp			
320	325	330	
tgt gaa gag gaa gag aaa aca aat cca gga tta cag acc cca cag ttc			1057
Cys Glu Glu Glu Glu Lys Thr Asn Pro Gly Leu Gln Thr Pro Gln Phe			
335	340	345	
tct cgc tgc cac ttc aag tca cga aat gac agc gtt att cac atc ctt			1105
Ser Arg Cys His Phe Lys Ser Arg Asn Asp Ser Val Ile His Ile Leu			
350	355	360	365
gtg gag gtg acc aca gcc ctg ggt gct gtt cac agt tac ctg ggc tcc			1153
Val Glu Val Thr Thr Ala Leu Gly Ala Val His Ser Tyr Leu Gly Ser			
370	375	380	
cct ttc tgg atc cac cag gct gtg cgc ctc ccc acc cca aac ttg cac			1201
Pro Phe Trp Ile His Gln Ala Val Arg Leu Pro Thr Pro Asn Leu His			
385	390	395	
tgg agg gag atc tcc agc ggg cat ctg gaa ttg gag tgg cag cac cca			1249
Trp Arg Glu Ile Ser Ser Gly His Leu Glu Leu Glu Trp Gln His Pro			
400	405	410	
tca tcc tgg gca gcc caa gag acc tgc tat caa ctc cga tac aca gga			1297
Ser Ser Trp Ala Ala Gln Glu Thr Cys Tyr Gln Leu Arg Tyr Thr Gly			
415	420	425	
gaa ggc cat cag gac tgg aag gtg ctg gag ccg cct ctc ggg gcc cga			1345
Glu Gly His Gln Asp Trp Lys Val Leu Glu Pro Pro Leu Gly Ala Arg			
430	435	440	445
gga ggg acc ctg gag ctg cgc ccg cga tct cgc tac cgt tta cag ctg			1393
Gly Gly Thr Leu Glu Leu Arg Pro Arg Ser Arg Tyr Arg Leu Gln Leu			

450	455	460	
cgc gcc agg ctc aat ggc ccc acc tac caa ggt ccc tgg agc tcg tgg			1441
Arg Ala Arg Leu Asn Gly Pro Thr Tyr Gln Gly Pro Trp Ser Ser Trp			
465	470	475	
tcg gac cca gct agg gtg gag acc gcc acc gag acc gcc tgg att tcc			1489
Ser Asp Pro Ala Arg Val Glu Thr Ala Thr Glu Thr Ala Trp Ile Ser			
480	485	490	
ttg gtg acc gct ctg ctg cta gtg ctg ggc ctc agc gcc gtc ctg ggc			1537
Leu Val Thr Ala Leu Leu Val Leu Gly Leu Ser Ala Val Leu Gly			
495	500	505	
ctg ctg ctg agg tgg cag ttt cct gca cac tac agg aga ctg agg			1585
Leu Leu Leu Leu Arg Trp Gln Phe Pro Ala His Tyr Arg Arg Leu Arg			
510	515	520	525
cat gcc ctg tgg ccc tca ctt cca gat ctg cac cga gtc cta ggc cag			1633
His Ala Leu Trp Pro Ser Leu Pro Asp Leu His Arg Val Leu Gly Gln			
530	535	540	
tac ctt agg gac act gca gcc ctg agt ccg ccc aag gcc aca gtc tca			1681
Tyr Leu Arg Asp Thr Ala Ala Leu Ser Pro Pro Lys Ala Thr Val Ser			
545	550	555	
gat acc tgt gaa gaa gtg gaa ccc agc ctc ctt gaa atc ctc ccc aag			1729
Asp Thr Cys Glu Glu Val Glu Pro Ser Leu Leu Glu Ile Leu Pro Lys			
560	565	570	
tcc tca gag agg act cct ttg ccc ctg tgt tcc tcc cag tcc cag atg			1777
Ser Ser Glu Arg Thr Pro Leu Pro Leu Cys Ser Ser Gln Ser Gln Met			
575	580	585	
gac tac cga aga ttg cag cct tct tgc ctg ggg acc atg ccc ctg tct			1825
Asp Tyr Arg Arg Leu Gln Pro Ser Cys Leu Gly Thr Met Pro Leu Ser			

590	595	600	605	
gtg tgc cca ccc atg got gag tca ggg tcc tgc tgt acc acc cac att				1873
Val Cys Pro Pro Met Ala Glu Ser Gly Ser Cys Cys Thr Thr His Ile				
610	615	620		
gcc aac cat tcc tac cta cca cta agc tat tgg cag cag cct tga				1918
Ala Asn His Ser Tyr Leu Pro Leu Ser Tyr Trp Gin Gin Pro				
625	630	635		
gtcgac				1924
<210> 165				
<211> 635				
<212> PRT				
<213> Macaca fascicularis				
<400> 165				
Met Pro Ser Trp Ala Leu Phe Met Val Thr Ser Cys Leu Leu Ala				
1	5	10	15	
Pro Gin Asn Leu Ala Gin Val Ser Ser Gin Asp Val Ser Leu Leu Ala				
20	25	30		
Ser Asp Ser Glu Pro Leu Lys Cys Phe Ser Arg Thr Phe Glu Asp Leu				
35	40	45		
Thr Cys Phe Trp Asp Glu Glu Ala Ala Pro Ser Gly Thr Tyr Gin				
50	55	60		

Leu Leu Tyr Ala Tyr Pro Gly Glu Lys Pro Arg Ala Cys Pro Leu Ser

65

70

75

80

Ser Gin Ser Val Pro Arg Phe Gly Thr Arg Tyr Val Cys Gin Phe Pro

85

90

95

Ala Gin Glu Glu Val Arg Leu Phe Ser Pro Leu His Leu Trp Val Lys

100

105

110

Asn Val Phe Leu Asn Gin Thr Gin Ile Gin Arg Val Leu Phe Val Asp

115

120

125

Ser Val Gly Leu Pro Ala Pro Pro Ser Ile Ile Lys Ala Met Gly Gly

130

135

140

Ser Gin Pro Gly Glu Leu Gin Ile Ser Trp Glu Ala Pro Ala Pro Glu

145

150

155

160

Ile Ser Asp Phe Leu Arg Tyr Glu Leu Arg Tyr Gly Pro Lys Asp Leu

165

170

175

Lys Asn Ser Thr Gly Pro Thr Val Ile Gin Leu Ile Ala Thr Glu Thr

180

185

190

Cys Cys Pro Ala Leu Gin Arg Pro His Ser Ala Ser Ala Leu Asp Gin

195

200

205

Ser Pro Cys Ala Gln Pro Thr Met Pro Trp Gln Asp Gly Pro Lys Gln

210 215 220

Thr Ser Pro Thr Arg Glu Ala Ser Ala Leu Thr Ala Val Gly Gly Ser

225 230 235 240

Cys Leu Ile Ser Gly Leu Gln Pro Gly Asn Ser Tyr Trp Leu Gln Leu

245 250 255

Arg Ser Glu Pro Asp Gly Ile Ser Leu Gly Gly Ser Trp Gly Ser Trp

260 265 270

Ser Leu Pro Val Thr Val Asp Leu Pro Gly Asp Ala Val Ala Ile Gly

275 280 285

Leu Gln Cys Phe Thr Leu Asp Leu Lys Asn Val Thr Cys Gln Trp Gln

290 295 300

Gln Glu Asp His Ala Ser Ser Gln Gly Phe Phe Tyr His Ser Arg Ala

305 310 315 320

Arg Cys Cys Pro Arg Asp Arg Tyr Pro Ile Trp Glu Asp Cys Glu Glu

325 330 335

Glu Glu Lys Thr Asn Pro Gly Leu Gln Thr Pro Gln Phe Ser Arg Cys

340 345 350

His Phe Lys Ser Arg Asn Asp Ser Val Ile His Ile Leu Val Glu Val
355 360 365

Thr Thr Ala Leu Gly Ala Val His Ser Tyr Leu Gly Ser Pro Phe Trp
370 375 380

Ile His Gln Ala Val Arg Leu Pro Thr Pro Asn Leu His Trp Arg Glu
385 390 395 400

Ile Ser Ser Gly His Leu Glu Leu Glu Trp Gln His Pro Ser Ser Trp
405 410 415

Ala Ala Gln Glu Thr Cys Tyr Gln Leu Arg Tyr Thr Gly Glu Gly His
420 425 430

Gln Asp Trp Lys Val Leu Glu Pro Pro Leu Gly Ala Arg Gly Gly Thr
435 440 445

Leu Glu Leu Arg Pro Arg Ser Arg Tyr Arg Leu Gln Leu Arg Ala Arg
450 455 460

Leu Asn Gly Pro Thr Tyr Gln Gly Pro Trp Ser Ser Trp Ser Asp Pro
465 470 475 480

Ala Arg Val Glu Thr Ala Thr Glu Thr Ala Trp Ile Ser Leu Val Thr
485 490 495

Ala Leu Leu Leu Val Leu Gly Leu Ser Ala Val Leu Gly Leu Leu
500 505 510

Leu Arg Trp Gln Phe Pro Ala His Tyr Arg Arg Leu Arg His Ala Leu
515 520 525

Trp Pro Ser Leu Pro Asp Leu His Arg Val Leu Gly Gln Tyr Leu Arg
530 535 540

Asp Thr Ala Ala Leu Ser Pro Pro Lys Ala Thr Val Ser Asp Thr Cys
545 550 555 560

Glu Glu Val Glu Pro Ser Leu Leu Glu Ile Leu Pro Lys Ser Ser Glu
565 570 575

Arg Thr Pro Leu Pro Leu Cys Ser Ser Gln Ser Gln Met Asp Tyr Arg
580 585 590

Arg Leu Gln Pro Ser Cys Leu Gly Thr Met Pro Leu Ser Val Cys Pro
595 600 605

Pro Met Ala Glu Ser Gly Ser Cys Cys Thr Thr His Ile Ala Asn His
610 615 620

Ser Tyr Leu Pro Leu Ser Tyr Trp Gln Gln Pro
625 630 635

<210> 166

<211> 24

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized sequence

<400> 166

cagggggccag tggatagact gatg

24

<210> 167

<211> 23

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized sequence

<400> 167

gctcaactgga tggtggaag atg

23

<210> 168

<211> 30

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 168

tagaattcca ccatggaatg gcctttgatc

30

<210> 169

<211> 56

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 169

agcctgagtc atcacaatat ccgatccgcc tccacctgca gagacagtga ccagag

56

<210> 170

<211> 56

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 170

actctggica ctgtctctgc aggtggaggc ggatcgata ttgtgatgac tcaggc

56

<210> 171

<211> 60

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 171

attgcggccg ctatcaatt atcgctgtca tcctttagt cttttatttc cagcttggtc

60

<210> 172

<211> 8

<212> PRT

<213> Artificial

<220>

<223> an artificially synthesized FLAG tag sequence

<400> 172

Asp Tyr Lys Asp Asp Asp Asp Lys

1

5

<210> 173

<211> 85

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 173

tagaattcca ccatggaatg gcctttgatc tttctttcc tcctgtcagg aactgcagg 60

gtccactccc aggttcagct gcagc 85

<210> 174

<211> 82

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 174

tggtaactgt ctctgcaggt ggtgggtggt cgggtggtgg tggttcgggt ggtagggat 60

cggatattgt gatgactcag gc

82

<210> 175

<211> 82

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 175

tgagtcatca caatatccga tccgccacca cccgaaccac caccacccga accaccacca 60

cctgcagaga cagtgaccag ag

82

<210> 176

<211> 25

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 176

caggttcagc tgcagcagtc tggac

25

<210> 177

<211> 81

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 177

gctgcagctg aacctgcgat ccacccgcctc ccgaaccacc accacccgat ccaccacctc 60

cttttatttc cagcttggtc c

81

<210> 178

<211> 38

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 178

gcccagccgg ccatggcgga kgtrmagtt caggagtc 38

<210> 179

<211> 38

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 179

gcccagccgg ccatggcgga ggtbcagctb cagcagtc 38

<210> 180

<211> 38

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 180

gcccagccgg ccatggcgca ggtgcagctg aagsastc

38

<210> 181

<211> 38

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 181

gcccagccgg ccatggcgga ggtccarctg caacartc

38

<210> 182

<211> 38

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 182

gcccagccgg ccatggcgca ggttcagctb cagcartc

38

<210> 183

<211> 38

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 183

gcccagccgg ccatggcgca ggtycarctg cagcagtc

38

<210> 184

<211> 38

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 184

gcccagccgg ccatggcgca ggtccacgtg aagcagtc

38

<210> 185

<211> 38

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 185

gcccagccgg ccatggcgga ggtgaasstg gtggaatc

38

<210> 186

<211> 38

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 186

gcccagccgg ccatggcgga vgtgawgytg gtggagtc

38

<210> 187

<211> 38

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 187

gcccagccgg ccatggcgga ggtgcagskg gtggagtc

38

<210> 188

<211> 38

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 188

gcccagccgg ccatggcgga kgtgcacntg gtggagtc

38

<210> 189

<211> 38

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 189

gcccagccgg ccatggcgga ggtgaagctg atggartc

38

<210> 190

<211> 38

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 190

gcccagccgg ccatggcgga ggtgcacrtt gttgagtc

38

<210> 191

<211> 38

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 191

gcccagccgg ccatggcgga rgtraagctt ctcgagtc

38

<210> 192

<211> 38

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 192

gcccagccgg ccatggcgga agtgaarstt gaggagtc

38

<210> 193

<211> 40

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 193

gcccagccgg ccatggcgca ggttactctr aaagwgtstg

40

<210> 194

<211> 38

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 194

gcccagccgg ccatggcgca ggtccaaactv cagcarcc

38

<210> 195

<211> 38

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 195

gcccagccgg ccatggcgga tgtgaacttg gaagtgtc

38

<210> 196

<211> 38

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 196

gcccagccgg ccatggcgga ggtgaaggtc atcgagtc

38

<210> 197

<211> 36

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 197

ggagccgcccg ccgccccgagg aaacggtgac cgtggt

36

<210> 198

<211> 36

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 198

ggagccgccc cccggggagg agactgtgag agtgtt

36

<210> 199

<211> 36

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 199

ggagccgccc cccggggcag agacagtgcac cagagt

36

<210> 200

<211> 36

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 200

ggagccgccc cccggggagg agacgggtgcac tgaggt

36

<210> 201

<211> 35

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 201

ggcggcggcg gctccgayat ccagctgact cagcc

35

<210> 202

<211> 35

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 202

ggcggcggcg gctccgayat tgttctcwcc cagtc

35

<210> 203

<211> 35

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 203

ggcggcggcg gctccgayat tgtgmtmact cagtc

35

<210> 204

<211> 35

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 204

ggcggcggcg gctccgatyat tgtgytraca cagtc

35

<210> 205

<211> 35

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 205

ggcggcggcg gctccgatyat tgtratgacm cagtc

35

<210> 206

<211> 35

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 206

ggcggcggcg gctccgatyat tmagatramc cagtc

35

<210> 207

<211> 35

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 207

ggcggcggcg gctccgayat tcagatgayd cagtc

35

<210> 208

<211> 35

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 208

ggcggcggcg gctccgayat ycagatgaca cagac

35

<210> 209

<211> 35

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 209

ggcggcggcg gctccgayat tggctcawc cagtc

35

<210> 210

<211> 35

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 210

ggcggcggcg gctccgayat tgwgctsacc caatc

35

<210> 211

<211> 35

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 211

ggcggcggcg gctccgayat tstratgacc cartc

35

<210> 212

<211> 35

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 212

ggcggcggcg gctccgayrt tktgatgacc carac

35

<210> 213

<211> 35

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 213

ggcggcggcg gctccgayat tgtgatgacb cagkc

35

<210> 214

<211> 35

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 214

ggcggcggcg gctccgayat tgtgataacy cagga

35

<210> 215

<211> 35

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 215

ggcggcggcg gctccgayat tgtgatgacc cagwt

35

<210> 216

<211> 35

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 216

ggcggcggcg gctccgatgc tgtgtatgaca caacc

35

<210> 217

<211> 35

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 217

ggcggcggcg gctccgatgc ttgtgtact cagtc

35

<210> 218

<211> 38

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 218

ggcggcggcg gctccgatgc ttttgtact caggaatc

38

<210> 219

<211> 36

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 219

ggaattcggc ccccgaggcc ttgatttcca gcttgg

36

<210> 220

<211> 36

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 220

ggaattcggc ccccgaggcc tttatttcca gcttgg

36

<210> 221

<211> 36

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 221

ggaattcggc ccccgaggcc tttatttcca actttg

36

<210> 222

<211> 36

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 222

ggaattcggc ccccgaggcc ttcagctcca gcttgg

36

<210> 223

<211> 39

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized primer sequence

<400> 223

ggaattcggc ccccgaggcc cctaggacacg tcagtttgg

39

<210> 224

<211> 27

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized sequence

<400> 224

ttactcgccgg cccagccggc catggcg

27

<210> 225

<211> 17

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized sequence

<400> 225

ggaattcggc ccccgag

17

<210> 226

<211> 20

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized sequence

<400> 226

tcacttacag gctctctact

20

<210> 227

<211> 20

<212> DNA

<213> Artificial

<220>

<223> an artificially synthesized sequence

<400> 227

caggtgggt ctttcattcc

20

<210> 228

<211> 354

<212> DNA

<213> Homo sapiens

<400> 228

caggtgcagc tggcagtc tggacctgag gtgaagaagc ctggggcctc agtgaaggtc 60

tcctgcaagg cttctggata caccttcacc aactcctgga tgaactgggt gaggcagagg 120

cctggaaagg gtcttgagtg gatggacgg atttatcctg gagatggaga aactatctac 180

aatggaaat tcagggtcag agtcacgatt accgcggacg aatccacgag cacagcctac 240

atggagctga gcagcctgag atctgaggac acggccgtgt attactgtgc gagaggctat 300

gatgattact cgttgctta ctggggccag ggaaccacgg tcaccgtctc ttca 354

<210> 229

<211> 118

<212> PRT

<213> Homo sapiens

<400> 229

Gln Val Gln Leu Val Gln Ser Gly Pro Glu Val Lys Lys Pro Gly Ala

1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Ser

20 25 30

Trp Met Asn Trp Val Arg Gln Arg Pro Gly Lys Gly Leu Glu Trp Met

35 40 45

Gly Arg Ile Tyr Pro Gly Asp Gly Glu Thr Ile Tyr Asn Gly Lys Phe
 50 55 60

Arg Val Arg Val Thr Ile Thr Ala Asp Glu Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys
 85 90 95

Ala Arg Gly Tyr Asp Asp Tyr Ser Phe Ala Tyr Trp Gly Gln Gly Thr
 100 105 110

Thr Val Thr Val Ser Ser
 115

<210> 230
 <211> 30
 <212> PRT
 <213> Homo sapiens

<400> 230

Gln Val Gln Leu Val Gln Ser Gly Pro Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr
 20 25 30

<210> 231
<211> 5
<212> PRT
<213> Homo sapiens

<400> 231

Asn Ser Trp Met Asn
1 5

<210> 232
<211> 14
<212> PRT
<213> Homo sapiens

<400> 232

Trp Val Arg Gln Arg Pro Gly Lys Gly Leu Glu Trp Met Gly
1 5 10

<210> 233
<211> 17
<212> PRT
<213> Homo sapiens

<400> 233

Arg Ile Tyr Pro Gly Asp Gly Glu Thr Ile Tyr Asn Gly Lys Phe Arg
1 5 10 15

Val

<210> 234

<211> 32

<212> PRT

<213> Homo sapiens

<400> 234

Arg Val Thr Ile Thr Ala Asp Glu Ser Thr Ser Thr Ala Tyr Met Glu

1

5

10

15

Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg

20

25

30

<210> 235

<211> 9

<212> PRT

<213> Homo sapiens

<400> 235

Gly Tyr Asp Asp Tyr Ser Phe Ala Tyr

1

5

<210> 236

<211> 11

<212> PRT

<213> Homo sapiens

<400> 236

Trp Gly Gin Gly Thr Thr Val Thr Val Ser Ser

1 5 10

<210> 237

<211> 336

<212> DNA

<213> Homo sapiens

<400> 237

gatattgtga tgactcagtc tgcaactctcc ctgccccgtca cccctggaga gccggccctcc 60

atctccctgca ggtcttagtaa gagtctcctg catagtaatg gcaacactta cttgtattgg 120

ttcccagcaga agccaggcga gtctccacag ctcctgtatct atcggatgtc caaccttgcc 180

tcaggggtcc ctgacagggtt cagtggcagt ggatcaggca cagctttac actgaaaatc 240

agcagagtgg aggctgagga ttttgggtt tattactgca tgcaacatata agaatatcct 300

tttacgttcg gccaagggac caaactggaa atcaaa 336

<210> 238

<211> 112

<212> PRT

<213> Homo sapiens

<400> 238

Asp Ile Val Met Thr Gin Ser Ala Leu Ser Leu Pro Val Thr Pro Gly

1 5 10 15

Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Lys Ser Leu Leu His Ser

20 25 30

Asn Gly Asn Thr Tyr Leu Tyr Trp Phe Gln Gln Lys Pro Gly Gln Ser
 35 40 45

Pro Gln Leu Leu Ile Tyr Arg Met Ser Asn Leu Ala Ser Gly Val Pro
 50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Ala Phe Thr Leu Lys Ile
 65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln His
 85 90 95

Ile Glu Tyr Pro Phe Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105 110

<210> 239

<211> 23

<212> PRT

<213> Homo sapiens

<400> 239

Asp Ile Val Met Thr Gln Ser Ala Leu Ser Leu Pro Val Thr Pro Gly
 1 5 10 15

Glu Pro Ala Ser Ile Ser Cys
 20

<210> 240

<211> 16

<212> PRT

<213> Homo sapiens

<400> 240

Arg Ser Ser Lys Ser Leu Leu His Ser Asn Gly Asn Thr Tyr Leu Tyr

1

5

10

15

<210> 241

<211> 15

<212> PRT

<213> Homo sapiens

<400> 241

Trp Phe Gin Gin Lys Pro Gly Gin Ser Pro Gin Leu Leu Ile Tyr

1

5

10

15

<210> 242

<211> 7

<212> PRT

<213> Homo sapiens

<400> 242

Arg Met Ser Asn Leu Ala Ser

1

5

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<211> 32

<212> PRT

<213> Homo sapiens

<400> 243

Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Ala Phe Thr

1 5 10 15

Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys

20 25 30

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<211> 9

<212> PRT

<213> Homo sapiens

<400> 244

Met Gin His Ile Glu Tyr Pro Phe Thr

1 5

<210> 245

<211> 10

<212> PRT

<213> Homo sapiens

<400> 245

Phe Gly Gin Gly Thr Lys Leu Glu Ile Lys

1 5 10

<210> 246

<211> 1924

<212> DNA

<213> Homo sapiens

<400> 246

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cctgaagtgt ttctcccgaa catttgagga cctcacttgc ttctggatg aggaagaggc 180

agcgcccaagt gggacatacc agctgctgta tgcctacccg cgggagaagc cccgtgcttg 240

ccccctgagt tcccagagca tgccccactt tggaacccga tacgtgtgcc agtttccaga 300

ccaggagggaa gtgcgtctct tccttcgct gcacctctgg gtgaagaatg tggccctaaa 360

ccagactcgg actcagcggag tcctctttgt ggacagtgtc ggcctgcccgg ctccccccag 420

tatcatcaag gcatgggtg ggagccagcc aggggaactt cagatcagct gggaggagcc 480

agctccagaa atcagtgatt tcctgaggtc cgaactccgc tatggcccca gagatccaa 540

gaactccact ggtcccacgg tcatacagct gattgccaca gaaacctgct gcccgtct 600

gcagagacct cactcagcct ctgctctggc ccagtctcca tgtgctcagc ccacaatgcc 660

ctggcaagat ggaccaaagc agacctcccc aagttagagaa gcttcagctc tgacagcaga 720

gggtggaaagc tgccatcatct caggactcca gcctggcaac tcctactggc tgcaagtcg 780

cagcgaacct gatgggatct ccctcggtgg ctccctggga tcctggtccc tccctgtgac 840

tgtggacctg cctggagatg cagtggcact tggactgcaa tgctttacct tggacctgaa 900

gaatgttacc tgtcaatggc agcaacagga ccatgctagc tcccaaggct tcttctacca 960

cagcagggca cggtgctgcc ccagagacag gtaccccatc tgggagaact gcgaagagga 1020
 agagaaaaca aatccaggac tacagacccc acagttctct cgctgccact tcaagtcacg 1080
 aatgacagc attattcaca tccttggta ggtgaccaca gccccggta ctgttcacag 1140
 ctacctggc tccctttctt gatatccacca ggctgtgcgc ctccccaccc caaacttgca 1200
 ctggagggag atctccagtg ggcattctgga attggagtgg cagcacccat cgtccctggc 1260
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 gctggagccg cctctcgaaaa cccgaggagg gaccctggag ctgcgccccgc gatctcgata 1380
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 tctgcacatcta gtgctggcc tcagcgccgt cctgggcctg ctgctgctga ggtggcagtt 1560
 tcctgcacac tacaggagac tgaggcatgc cctgtggccc tcacttccag acctgcacccg 1620
 ggtccttaggc cagtaccta gggacactgc agccctgagc ccgccccagg ccacagtctc 1680
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 ttgcctgggg accatgcaccc tgcgtgtgtg cccacccatg gctgagttagt ggtccctgt 1860
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 cgac 1924

<211> 1924

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (11).. (1918)

<223>

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 Met Pro Ser Trp Ala Leu Phe Met Val Thr Ser Cys Leu
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ctc ctg gcc cct caa aac ctg gcc caa gtc agc agc caa gat gtc tcc 97
 Leu Leu Ala Pro Gln Asn Leu Ala Gln Val Ser Ser Gln Asp Val Ser
 15 20 25

ttg ctg gca tca gac tca gag ccc ctg aag tgt ttc tcc cga aca ttt 145
 Leu Leu Ala Ser Asp Ser Glu Pro Leu Lys Cys Phe Ser Arg Thr Phe
 30 35 40 45

gag gac ctc act tgc ttc tgg gat gag gaa gag gca gcg ccc agt ggg 193
 Glu Asp Leu Thr Cys Phe Trp Asp Glu Glu Ala Ala Pro Ser Gly
 50 55 60

aca tac cag ctg ctg tat gcc tac ccg cgg gag aag ccc cgt gct tgc 241
 Thr Tyr Gln Leu Leu Tyr Ala Tyr Pro Arg Glu Lys Pro Arg Ala Cys
 65 70 75

ccc ctg agt tcc cag agc atg ccc cac ttt gga acc cga tac gtg tgc 289
 Pro Leu Ser Ser Gln Ser Met Pro His Phe Gly Thr Arg Tyr Val Cys
 80 85 90

cag ttt cca gac cag gag gaa gtg cct ctc ttc ttt ccg ctg cac ctc 337
 Gln Phe Pro Asp Gln Glu Glu Val Pro Leu Phe Phe Pro Leu His Leu

95	100	105	
tgg gtg aag aat gtg ttc cta aac cag act cgg act cag cga gtc ctc			385
Trp	Val	Lys	
Asn Val Phe Leu Asn Gln Thr Arg Thr Gln Arg Val Leu			
110	115	120	125
ttt gtg gac agt gta ggc ctg ccg gct ccc ccc agt atc atc aag gcc			433
Phe	Val	Asp	Ser Val Gly Leu Pro Ala Pro Pro Ser Ile Ile Lys Ala
130	135		140
atg ggt ggg agc cag cca ggg gaa ctt cag atc agc tgg gag gag cca			481
Met	Gly	Gly	Ser Gln Pro Gly Glu Leu Gln Ile Ser Trp Glu Glu Pro
145	150		155
gct cca gaa atc agt gat ttc ctg agg tac gaa ctc cgc tat ggc ccc			529
Ala	Pro	Glu	Ile Ser Asp Phe Leu Arg Tyr Glu Leu Arg Tyr Gly Pro
160	165		170
aga gat ccc aag aac tcc act ggt ccc acg gtc ata cag ctg att gcc			577
Arg	Asp	Pro	Lys Asn Ser Thr Gly Pro Thr Val Ile Gln Leu Ile Ala
175	180		185
aca gaa acc tgc tgc cct gct ctg cag aga cct cac tca gcc tct gct			625
Thr	Glu	Thr	Cys Cys Pro Ala Leu Gln Arg Pro His Ser Ala Ser Ala
190	195	200	205
ctg gac cag tct cca tgt gct cag ccc aca atg ccc tgg caa gat gga			673
Leu	Asp	Gln	Ser Pro Cys Ala Gln Pro Thr Met Pro Trp Gln Asp Gly
210	215		220
cca aag cag acc tcc cca agt aga gaa gct tca gct ctg aca gca gag			721
Pro	Lys	Gln	Thr Ser Pro Ser Arg Glu Ala Ser Ala Leu Thr Ala Glu
225	230		235
ggg gga agc tgc ctc atc tca gga ctc cag cct ggc aac tcc tac tgg			769
Gly	Gly	Ser	Cys Leu Ile Ser Gly Leu Gln Pro Gly Asn Ser Tyr Trp

240	245	250	
ctg cag ctg cgc agc gaa cct gat ggg atc tcc ctc ggt ggc tcc tgg Leu Gln Leu Arg Ser Glu Pro Asp Gly Ile Ser Leu Gly Gly Ser Trp			817
255	260	265	
gga tcc tgg tcc ctc cct gtg act gtg gac ctg cct gga gat gca gtg Gly Ser Trp Ser Leu Pro Val Thr Val Asp Leu Pro Gly Asp Ala Val			865
270	275	280	285
gca ctt gga ctg caa tgc ttt acc ttg gac ctg aag aat gtt acc tgt Ala Leu Gly Leu Gln Cys Phe Thr Leu Asp Leu Lys Asn Val Thr Cys			913
290	295	300	
caa tgg cag caa cag gac cat gct agc tcc caa ggc ttc ttc tac cac Gln Trp Gln Gln Asp His Ala Ser Ser Gln Gly Phe Phe Tyr His			961
305	310	315	
agc agg gca cgg tgc tgc ccc aga gac agg tac ccc atc tgg gag aac Ser Arg Ala Arg Cys Cys Pro Arg Asp Arg Tyr Pro Ile Trp Glu Asn			1009
320	325	330	
tgc gaa gag gaa gag aaa aca aat cca gga cta cag acc cca cag ttc Cys Glu Glu Glu Lys Thr Asn Pro Gly Leu Gln Thr Pro Gln Phe			1057
335	340	345	
tct cgc tgc cac ttc aag tca cga aat gac agc att att cac atc ctt Ser Arg Cys His Phe Lys Ser Arg Asn Asp Ser Ile Ile His Ile Leu			1105
350	355	360	365
gtg gag gtg acc aca gcc ccc ggt act gtt cac agc tac ctg ggc tcc Val Glu Val Thr Thr Ala Pro Gly Thr Val His Ser Tyr Leu Gly Ser			1153
370	375	380	
cct ttc tgg atc cac cag gct gtg cgc ctc ccc acc cca aac ttg cac Pro Phe Trp Ile His Gln Ala Val Arg Leu Pro Thr Pro Asn Leu His			1201

385	390	395	
tgg agg gag atc tcc agt ggg cat ctg gaa ttg gag tgg cag cac cca Trp Arg Glu Ile Ser Ser Gly His Leu Glu Leu Glu Trp Gln His Pro			
400	405	410	
tcg tcc tgg gca gcc caa gag acc tgt tat caa ctc cga tac aca gga Ser Ser Trp Ala Ala Gln Glu Thr Cys Tyr Gln Leu Arg Tyr Thr Gly			
415	420	425	
gaa ggc cat cag gac tgg aag gtg ctg gag ccg cct ctc ggg gcc cga Glu Gly His Gln Asp Trp Lys Val Leu Glu Pro Pro Leu Gly Ala Arg			
430	435	440	445
gga ggg acc ctg gag ctg cgc ccg cga tct cgc tac cgt tta cag ctg Gly Gly Thr Leu Glu Leu Arg Pro Arg Ser Arg Tyr Arg Leu Gln Leu			
450	455	460	
cgc gcc agg ctc aac ggc ccc acc tac caa ggt ccc tgg agc tcg tgg Arg Ala Arg Leu Asn Gly Pro Thr Tyr Gln Gly Pro Trp Ser Ser Trp			
465	470	475	
tcg gac cca act agg gtg gag acc gcc acc gag acc gcc tgg atc tcc Ser Asp Pro Thr Arg Val Glu Thr Ala Thr Glu Thr Ala Trp Ile Ser			
480	485	490	
ttg gtg acc gct ctg cat cta gtg ctg ggc ctc agc gcc gtc ctg ggc Leu Val Thr Ala Leu His Leu Val Leu Glu Leu Ser Ala Val Leu Gly			
495	500	505	
ctg ctg ctg agg tgg cag ttt cct gca cac tac agg aga ctg agg Leu Leu Leu Leu Arg Trp Gln Phe Pro Ala His Tyr Arg Arg Leu Arg			
510	515	520	525
cat gcc ctg tgg ccc tca ctt cca gac ctg cac cgg gtc cta ggc cag His Ala Leu Trp Pro Ser Leu Pro Asp Leu His Arg Val Leu Gly Gln			

530	535	540	
tac ctt agg gac act gca gcc ctg agc ccg ccc aag gcc aca gtc tca Tyr Leu Arg Asp Thr Ala Ala Leu Ser Pro Pro Lys Ala Thr Val Ser			1681
545	550	555	
gat acc tgt gaa gaa gtg gaa ccc agc ctc ctt gaa atc ctc ccc aag Asp Thr Cys Glu Glu Val Glu Pro Ser Leu Leu Glu Ile Leu Pro Lys			1729
560	565	570	
tcc tca gag agg act cct ttg ccc ctg tgt tcc tcc cag gcc cag atg Ser Ser Glu Arg Thr Pro Leu Pro Leu Cys Ser Ser Gln Ala Gln Met			1777
575	580	585	
gac tac cga aga ttg cag cct tct tgc ctg ggg acc atg ccc ctg tct Asp Tyr Arg Arg Leu Gln Pro Ser Cys Leu Gly Thr Met Pro Leu Ser			1825
590	595	600	605
gtg tgc cca ccc atg gct gag tca ggg tcc tgc tgt acc acc cac att Val Cys Pro Pro Met Ala Glu Ser Gly Ser Cys Cys Thr Thr His Ile			1873
610	615	620	
gcc aac cat tcc tac cta cca cta agc tat tgg cag cag cct tga Ala Asn His Ser Tyr Leu Pro Leu Ser Tyr Trp Gln Gln Pro			1918
625	630	635	
gtcgac			1924

<210> 248
 <211> 635
 <212> PRT
 <213> Homo sapiens

<400> 248

Met Pro Ser Trp Ala Leu Phe Met Val Thr Ser Cys Leu Leu Leu Ala
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Pro Gin Asn Leu Ala Gin Val Ser Ser Gin Asp Val Ser Leu Leu Ala
20 25 30

Ser Asp Ser Glu Pro Leu Lys Cys Phe Ser Arg Thr Phe Glu Asp Leu
35 40 45

Thr Cys Phe Trp Asp Glu Glu Glu Ala Ala Pro Ser Gly Thr Tyr Gin
50 55 60

Leu Leu Tyr Ala Tyr Pro Arg Glu Lys Pro Arg Ala Cys Pro Leu Ser
65 70 75 80

Ser Gin Ser Met Pro His Phe Gly Thr Arg Tyr Val Cys Gin Phe Pro
85 90 95

Asp Gin Glu Glu Val Pro Leu Phe Phe Pro Leu His Leu Trp Val Lys
100 105 110

Asn Val Phe Leu Asn Gin Thr Arg Thr Gin Arg Val Leu Phe Val Asp
115 120 125

Ser Val Gly Leu Pro Ala Pro Pro Ser Ile Ile Lys Ala Met Gly Gly
130 135 140

Ser Gin Pro Gly Glu Leu Gin Ile Ser Trp Glu Glu Pro Ala Pro Glu
145 150 155 160

Ile Ser Asp Phe Leu Arg Tyr Glu Leu Arg Tyr Gly Pro Arg Asp Pro
165 170 175

Lys Asn Ser Thr Gly Pro Thr Val Ile Gin Leu Ile Ala Thr Glu Thr
180 185 190

Cys Cys Pro Ala Leu Gin Arg Pro His Ser Ala Ser Ala Leu Asp Gin
195 200 205

Ser Pro Cys Ala Gin Pro Thr Met Pro Trp Gin Asp Gly Pro Lys Gin
210 215 220

Thr Ser Pro Ser Arg Glu Ala Ser Ala Leu Thr Ala Glu Gly Gly Ser
225 230 235 240

Cys Leu Ile Ser Gly Leu Gin Pro Gly Asn Ser Tyr Trp Leu Gin Leu
245 250 255

Arg Ser Glu Pro Asp Gly Ile Ser Leu Gly Gly Ser Trp Gly Ser Trp
260 265 270

Ser Leu Pro Val Thr Val Asp Leu Pro Gly Asp Ala Val Ala Leu Gly
275 280 285

Leu Gln Cys Phe Thr Leu Asp Leu Lys Asn Val Thr Cys Gln Trp Gln
290 295 300

Gln Gln Asp His Ala Ser Ser Gln Gly Phe Phe Tyr His Ser Arg Ala
305 310 315 320

Arg Cys Cys Pro Arg Asp Arg Tyr Pro Ile Trp Glu Asn Cys Glu Glu
325 330 335

Glu Glu Lys Thr Asn Pro Gly Leu Gln Thr Pro Gln Phe Ser Arg Cys
340 345 350

His Phe Lys Ser Arg Asn Asp Ser Ile Ile His Ile Leu Val Glu Val
355 360 365

Thr Thr Ala Pro Gly Thr Val His Ser Tyr Leu Gly Ser Pro Phe Trp
370 375 380

Ile His Gln Ala Val Arg Leu Pro Thr Pro Asn Leu His Trp Arg Glu
385 390 395 400

Ile Ser Ser Gly His Leu Glu Leu Glu Trp Gln His Pro Ser Ser Trp
405 410 415

Ala Ala Gln Glu Thr Cys Tyr Gln Leu Arg Tyr Thr Gly Glu Gly His
420 425 430

Gln Asp Trp Lys Val Leu Glu Pro Pro Leu Gly Ala Arg Gly Gly Thr
435 440 445

Leu Glu Leu Arg Pro Arg Ser Arg Tyr Arg Leu Gln Leu Arg Ala Arg
450 455 460

Leu Asn Gly Pro Thr Tyr Gln Gly Pro Trp Ser Ser Trp Ser Asp Pro
465 470 475 480

Thr Arg Val Glu Thr Ala Thr Glu Thr Ala Trp Ile Ser Leu Val Thr
485 490 495

Ala Leu His Leu Val Leu Gly Leu Ser Ala Val Leu Gly Leu Leu Leu
500 505 510

Leu Arg Trp Gln Phe Pro Ala His Tyr Arg Arg Leu Arg His Ala Leu
515 520 525

Trp Pro Ser Leu Pro Asp Leu His Arg Val Leu Gly Gln Tyr Leu Arg
530 535 540

Asp Thr Ala Ala Leu Ser Pro Pro Lys Ala Thr Val Ser Asp Thr Cys
545 550 555 560

Glu Glu Val Glu Pro Ser Leu Leu Glu Ile Leu Pro Lys Ser Ser Glu
565 570 575

Arg Thr Pro Leu Pro Leu Cys Ser Ser Gin Ala Gin Met Asp Tyr Arg
 580 585 590

Arg Leu Gin Pro Ser Cys Leu Gly Thr Met Pro Leu Ser Val Cys Pro
 595 600 605

Pro Met Ala Glu Ser Gly Ser Cys Cys Thr Thr His Ile Ala Asn His
 610 615 620

Ser Tyr Leu Pro Leu Ser Tyr Trp Gin Gin Pro
 625 630 635

<210> 249
 <211> 1924
 <212> DNA
 <213> Homo sapiens

<220>
 <221> CDS
 <222> (11)...(1918)
 <223>

<400> 249
 gaattccacc atg ccc tcc tgg gcc ctc ttc atg gtc acc tcc tgc ctc 49
 Met Pro Ser Trp Ala Leu Phe Met Val Thr Ser Cys Leu
 1 5 10

ctc ctg gcc cct caa aac ctg gcc caa gtc agc agc caa gat gtc tcc 97
 Leu Leu Ala Pro Gin Asn Leu Ala Gin Val Ser Ser Gin Asp Val Ser
 15 20 25

ttg ctg gca tca gac tca gag ccc ctg aag tgt ttc tcc cga aca ttt 145

Leu Leu Ala Ser Asp Ser Glu Pro Leu Lys Cys Phe Ser Arg Thr Phe
 30 35 40 45

gag gac ctc act tgc ttc tgg gat gag gaa gag gca gcg ccc agt ggg 193
 Glu Asp Leu Thr Cys Phe Trp Asp Glu Glu Ala Ala Pro Ser Gly
 50 55 60

aca tac cag ctg ctg tat gcc tac ccg cgg gag aag ccc cgt gct tgc 241
 Thr Tyr Gln Leu Leu Tyr Ala Tyr Pro Arg Glu Lys Pro Arg Ala Cys
 65 70 75

ccc ctg agt tcc cag agc atg ccc cac ttt gga acc cga tac gtg tgc 289
 Pro Leu Ser Ser Gln Ser Met Pro His Phe Gly Thr Arg Tyr Val Cys
 80 85 90

cag ttt cca gac cag gag gaa gtg cgt ctc ttc ttt ccg ctg cac ctc 337
 Gln Phe Pro Asp Gln Glu Glu Val Arg Leu Phe Phe Pro Leu His Leu
 95 100 105

tgg gtg aag aat gtg ttc cta aac cag act cgg act cag cga gtc ctc 385
 Trp Val Lys Asn Val Phe Leu Asn Gln Thr Arg Thr Gln Arg Val Leu
 110 115 120 125

ttt gtg gac agt gta ggc ctg ccg gct ccc ccc agt atc atc aag gcc 433
 Phe Val Asp Ser Val Gly Leu Pro Ala Pro Pro Ser Ile Ile Lys Ala
 130 135 140

atg ggt ggg agc cag cca ggg gaa ctt cag atc agc tgg gag gag cca 481
 Met Gly Gly Ser Gln Pro Gly Glu Leu Gln Ile Ser Trp Glu Glu Pro
 145 150 155

gct cca gaa atc agt gat ttc ctg agg tac gaa ctc cgc tat ggc ccc 529
 Ala Pro Glu Ile Ser Asp Phe Leu Arg Tyr Glu Leu Arg Tyr Gly Pro
 160 165 170

aga gat ccc aag aac tcc act ggt ccc acg gtc ata cag ctg att gcc 577

Arg Asp Pro Lys Asn Ser Thr Gly Pro Thr Val Ile Gin Leu Ile Ala

175 180 185

aca gaa acc tgc tgc cct gct ctg cag aga cct cac tca gcc tct gct

625

Thr Glu Thr Cys Cys Pro Ala Leu Gin Arg Pro His Ser Ala Ser Ala

190 195 200 205

ctg gac cag tct cca tgt gct cag ccc aca atg ccc tgg caa gat gga

673

Leu Asp Gin Ser Pro Cys Ala Gin Pro Thr Met Pro Trp Gin Asp Gly

210 215 220

cca aag cag acc tcc cca agt aga gaa gct tca gct ctg aca gca gag

721

Pro Lys Gin Thr Ser Pro Ser Arg Glu Ala Ser Ala Leu Thr Ala Glu

225 230 235

ggg gga agc tgc ctc atc tca gga ctc cag cct ggc aac tcc tac tgg

769

Gly Gly Ser Cys Leu Ile Ser Gly Leu Gin Pro Gly Asn Ser Tyr Trp

240 245 250

ctg cag ctg tgc agc gaa cct gat ggg atc tcc ctc ggt ggc tcc tgg

817

Leu Gin Leu Cys Ser Glu Pro Asp Gly Ile Ser Leu Gly Gly Ser Trp

255 260 265

gga tcc tgg tcc ctc cct gtg act gtg gac ctg cct gga gat gca gtg

865

Gly Ser Trp Ser Leu Pro Val Thr Val Asp Leu Pro Gly Asp Ala Val

270 275 280 285

gca ctt gga ctg caa tgc ttt acc ttg gac ctg aag aat gtt acc tgt

913

Ala Leu Gly Leu Gin Cys Phe Thr Leu Asp Leu Lys Asn Val Thr Cys

290 295 300

caa tgg cag caa cag gac cat gct agc tcc caa ggc ttc ttc tac cac

961

Gln Trp Gin Gin Gin Asp His Ala Ser Ser Gin Gly Phe Phe Tyr His

305 310 315

agc agg gca cgg tgc tgc ccc aga gac agg tac ccc atc tgg gag aac

1009

Ser Arg Ala Arg Cys Cys Pro Arg Asp Arg Tyr Pro Ile Trp Glu Asn
 320 325 330

tgc gaa gag gaa gag aaa aca aat cca gga cta cag acc cca cag ttc 1057
 Cys Glu Glu Glu Glu Lys Thr Asn Pro Gly Leu Gln Thr Pro Gln Phe
 335 340 345

tct cgc tgc cac ttc aag tca cga aat gac agc att att cac atc ctt 1105
 Ser Arg Cys His Phe Lys Ser Arg Asn Asp Ser Ile Ile His Ile Leu
 350 355 360 365

gtg gag gtg acc aca gcc ccg ggt act gtt cac agc tac ctg ggc tcc 1153
 Val Glu Val Thr Thr Ala Pro Gly Thr Val His Ser Tyr Leu Gly Ser
 370 375 380

cct ttc tgg atc cac cag gct gtg cgc ctc ccc acc cca aac ttg cac 1201
 Pro Phe Trp Ile His Gln Ala Val Arg Leu Pro Thr Pro Asn Leu His
 385 390 395

tgg agg gag atc tcc agt ggg cat ctg gaa ttg gag tgg cag cac cca 1249
 Trp Arg Glu Ile Ser Ser Gly His Leu Glu Leu Glu Trp Gln His Pro
 400 405 410

tcg tcc tgg gca gcc caa gag acc tgt tat caa ctc cga tac aca gga 1297
 Ser Ser Trp Ala Ala Gln Glu Thr Cys Tyr Gln Leu Arg Tyr Thr Gly
 415 420 425

gaa ggc cat cag gac tgg aag gtg ctg gag ccg cct ctc ggg gcc cga 1345
 Glu Gly His Gln Asp Trp Lys Val Leu Glu Pro Pro Leu Gly Ala Arg
 430 435 440 445

gga ggg acc ctg gag ctg cgc ccg cga tct cgc tac cgt tta cag ctg 1393
 Gly Gly Thr Leu Glu Leu Arg Pro Arg Ser Arg Tyr Arg Leu Gln Leu
 450 455 460

cgc gcc agg ctc aac ggc ccc acc tac caa ggt ccc tgg agc tcg tgg 1441

Arg Ala Arg Leu Asn Gly Pro Thr Tyr Gln Gly Pro Trp Ser Ser Trp
 465 470 475

tcg gac cca act agg gtg gag acc gcc acc gag acc gcc tgg atc tcc 1489
 Ser Asp Pro Thr Arg Val Glu Thr Ala Thr Glu Thr Ala Trp Ile Ser
 480 485 490

ttg gtg acc gct ctg cat cta gtg ctg ggc ctc agc gcc gtc ctg ggc 1537
 Leu Val Thr Ala Leu His Leu Val Leu Gly Leu Ser Ala Val Leu Gly
 495 500 505

ctg ctg ctg ctg agg tgg cag ttt cct gca cac tac agg aga ctg agg 1585
 Leu Leu Leu Leu Arg Trp Gln Phe Pro Ala His Tyr Arg Arg Leu Arg
 510 515 520 525

cat gcc ctg tgg ccc tca ctt cca gac ctg cac cgg gtc cta ggc cag 1633
 His Ala Leu Trp Pro Ser Leu Pro Asp Leu His Arg Val Leu Gly Gln
 530 535 540

tac ctt agg gac act gca gcc ctg agc ccc aag gcc aca gtc tca 1681
 Tyr Leu Arg Asp Thr Ala Ala Leu Ser Pro Pro Lys Ala Thr Val Ser
 545 550 555

gat acc tgt gaa gaa gtg gaa ccc agc ctc ctt gaa atc ctc ccc aag 1729
 Asp Thr Cys Glu Glu Val Glu Pro Ser Leu Leu Glu Ile Leu Pro Lys
 560 565 570

tcc tca gag agg act cct ttg ccc ctg tgt tcc tcc cag gcc cag atg 1777
 Ser Ser Glu Arg Thr Pro Leu Pro Leu Cys Ser Ser Gln Ala Gln Met
 575 580 585

gac tac cga aga ttg cag cct tct tgc ctg ggg acc atg ccc ctg tct 1825
 Asp Tyr Arg Arg Leu Gln Pro Ser Cys Leu Gly Thr Met Pro Leu Ser
 590 595 600 605

gtg tgc cca ccc atg gct gag tca ggg tcc tgc tgt acc acc cac att 1873

Val Cys Pro Pro Met Ala Glu Ser Gly Ser Cys Cys Thr Thr His Ile
 610 615 620

gcc aac cat tcc tac cta cca cta agc tat tgg cag cag cct tga 1918
 Ala Asn His Ser Tyr Leu Pro Leu Ser Tyr Trp Gln Gln Pro
 625 630 635

gtcgac 1924

<210> 250
 <211> 635
 <212> PRT
 <213> Homo sapiens

<400> 250

Met Pro Ser Trp Ala Leu Phe Met Val Thr Ser Cys Leu Leu Ala
 1 5 10 15

Pro Gln Asn Leu Ala Gln Val Ser Ser Gln Asp Val Ser Leu Leu Ala
 20 25 30

Ser Asp Ser Glu Pro Leu Lys Cys Phe Ser Arg Thr Phe Glu Asp Leu
 35 40 45

Thr Cys Phe Trp Asp Glu Glu Glu Ala Ala Pro Ser Gly Thr Tyr Gln
 50 55 60

Leu Leu Tyr Ala Tyr Pro Arg Glu Lys Pro Arg Ala Cys Pro Leu Ser
 65 70 75 80

Ser Gln Ser Met Pro His Phe Gly Thr Arg Tyr Val Cys Gln Phe Pro

85

90

95

Asp Gln Glu Glu Val Arg Leu Phe Phe Pro Leu His Leu Trp Val Lys

100

105

110

Asn Val Phe Leu Asn Gln Thr Arg Thr Gln Arg Val Leu Phe Val Asp

115

120

125

Ser Val Gly Leu Pro Ala Pro Pro Ser Ile Ile Lys Ala Met Gly Gly

130

135

140

Ser Gln Pro Gly Glu Leu Gln Ile Ser Trp Glu Glu Pro Ala Pro Glu

145

150

155

160

Ile Ser Asp Phe Leu Arg Tyr Glu Leu Arg Tyr Gly Pro Arg Asp Pro

165

170

175

Lys Asn Ser Thr Gly Pro Thr Val Ile Gln Leu Ile Ala Thr Glu Thr

180

185

190

Cys Cys Pro Ala Leu Gln Arg Pro His Ser Ala Ser Ala Leu Asp Gln

195

200

205

Ser Pro Cys Ala Gln Pro Thr Met Pro Trp Gln Asp Gly Pro Lys Gln

210

215

220

Thr Ser Pro Ser Arg Glu Ala Ser Ala Leu Thr Ala Glu Gly Gly Ser
225 230 235 240

Cys Leu Ile Ser Gly Leu Gln Pro Gly Asn Ser Tyr Trp Leu Gln Leu
245 250 255

Cys Ser Glu Pro Asp Gly Ile Ser Leu Gly Gly Ser Trp Gly Ser Trp
260 265 270

Ser Leu Pro Val Thr Val Asp Leu Pro Gly Asp Ala Val Ala Leu Gly
275 280 285

Leu Gln Cys Phe Thr Leu Asp Leu Lys Asn Val Thr Cys Gln Trp Gln
290 295 300

Gln Gln Asp His Ala Ser Ser Gln Gly Phe Phe Tyr His Ser Arg Ala
305 310 315 320

Arg Cys Cys Pro Arg Asp Arg Tyr Pro Ile Trp Glu Asn Cys Glu Glu
325 330 335

Glu Glu Lys Thr Asn Pro Gly Leu Gln Thr Pro Gln Phe Ser Arg Cys
340 345 350

His Phe Lys Ser Arg Asn Asp Ser Ile Ile His Ile Leu Val Glu Val
355 360 365

Thr Thr Ala Pro Gly Thr Val His Ser Tyr Leu Gly Ser Pro Phe Trp

370 375 380

Ile His Gln Ala Val Arg Leu Pro Thr Pro Asn Leu His Trp Arg Glu

385 390 395 400

Ile Ser Ser Gly His Leu Glu Leu Glu Trp Gln His Pro Ser Ser Trp

405 410 415

Ala Ala Gln Glu Thr Cys Tyr Gln Leu Arg Tyr Thr Gly Glu Gly His

420 425 430

Gln Asp Trp Lys Val Leu Glu Pro Pro Leu Gly Ala Arg Gly Gly Thr

435 440 445

Leu Glu Leu Arg Pro Arg Ser Arg Tyr Arg Leu Gln Leu Arg Ala Arg

450 455 460

Leu Asn Gly Pro Thr Tyr Gln Gly Pro Trp Ser Ser Trp Ser Asp Pro

465 470 475 480

Thr Arg Val Glu Thr Ala Thr Glu Thr Ala Trp Ile Ser Leu Val Thr

485 490 495

Ala Leu His Leu Val Leu Gly Leu Ser Ala Val Leu Gly Leu Leu Leu

500 505 510

Leu Arg Trp Gin Phe Pro Ala His Tyr Arg Arg Leu Arg His Ala Leu

515 520 525

Trp Pro Ser Leu Pro Asp Leu His Arg Val Leu Gly Gin Tyr Leu Arg

530 535 540

Asp Thr Ala Ala Leu Ser Pro Pro Lys Ala Thr Val Ser Asp Thr Cys

545 550 555 560

Glu Glu Val Glu Pro Ser Leu Leu Glu Ile Leu Pro Lys Ser Ser Glu

565 570 575

Arg Thr Pro Leu Pro Leu Cys Ser Ser Gin Ala Gin Met Asp Tyr Arg

580 585 590

Arg Leu Gin Pro Ser Cys Leu Gly Thr Met Pro Leu Ser Val Cys Pro

595 600 605

Pro Met Ala Glu Ser Gly Ser Cys Cys Thr Thr His Ile Ala Asn His

610 615 620

Ser Tyr Leu Pro Leu Ser Tyr Trp Gin Gin Pro

625 630 635

<210> 251

<211> 1924

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (11)..(1918)

<223>

<400> 251

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Met Pro Ser Trp Ala Leu Phe Met Val Thr Ser Cys Leu

1 5 10

ctc ctg gcc cct caa aac ctg gcc caa gtc agc agc caa gat gtc tcc 97

Leu Leu Ala Pro Gin Asn Leu Ala Gin Val Ser Ser Gin Asp Val Ser

15 20 25

ttg ctg gca tca gac tca gag ccc ctg aag tgt ttc tcc cga aca ttt 145

Leu Leu Ala Ser Asp Ser Glu Pro Leu Lys Cys Phe Ser Arg Thr Phe

30 35 40 45

gag gac ctc act tgc ttc tgg gat gag gaa gag gca gcg ccc agt ggg 193

Glu Asp Leu Thr Cys Phe Trp Asp Glu Glu Ala Ala Pro Ser Gly

50 55 60

aca tac cag ctg ctg tat gcc tac ccg cgg gag aag ccc cgt gct tgc 241

Thr Tyr Gin Leu Leu Tyr Ala Tyr Pro Arg Glu Lys Pro Arg Ala Cys

65 70 75

ccc ctg agt tcc cag agc atg ccc cac ttt gga acc cga tac gtg tgc 289

Pro Leu Ser Ser Gin Ser Met Pro His Phe Gly Thr Arg Tyr Val Cys

80 85 90

cag ttt cca gac cag gag gaa gtg cgt ctc ttc ttt ccg ctg cac ctc 337

Gin Phe Pro Asp Gin Glu Glu Val Arg Leu Phe Phe Pro Leu His Leu

95 100 105

tgg	gtg	aag	aat	gtg	ttc	cta	aac	cag	act	cgg	act	cag	cga	gtc	ctc	385
Trp	Val	Lys	Asn	Val	Phe	Leu	Asn	Gln	Thr	Arg	Thr	Gln	Arg	Val	Leu	
110				115					120					125		
ttt	gtg	gac	agt	gta	ggc	ctg	ccg	gct	ccc	ccc	agt	atc	atc	aag	gcc	433
Phe	Val	Asp	Ser	Val	Gly	Leu	Pro	Ala	Pro	Pro	Ser	Ile	Ile	Lys	Ala	
				130					135					140		
atg	ggt	ggg	agc	cag	cca	ggg	gaa	ctt	cag	atc	agc	tgg	gag	gag	cca	481
Met	Gly	Gly	Ser	Gln	Pro	Gly	Glu	Leu	Gln	Ile	Ser	Trp	Glu	Glu	Pro	
				145					150					155		
gct	cca	gaa	atc	agt	gat	ttc	ctg	agg	tac	gaa	ctc	cgc	tat	ggc	ccc	529
Ala	Pro	Glu	Ile	Ser	Asp	Phe	Leu	Arg	Tyr	Glu	Leu	Gln	Ile	Ser	Tyr	
				160			165			170						
aga	gat	ccc	aag	aac	tcc	act	ggt	ccc	acg	gtc	ata	cag	ctg	att	gcc	577
Arg	Asp	Pro	Lys	Asn	Ser	Thr	Gly	Pro	Thr	Val	Ile	Gln	Leu	Ile	Ala	
				175			180			185						
aca	gaa	acc	tgc	tgc	cct	gct	ctg	cag	aga	cct	cac	tca	gcc	tct	gct	625
Thr	Glu	Thr	Cys	Cys	Pro	Ala	Leu	Gln	Arg	Pro	His	Ser	Ala	Ser	Ala	
				190			195			200			205			
ctg	gac	cag	tct	cca	tgt	gct	cag	ccc	aca	atg	ccc	tgg	caa	gat	gga	673
Leu	Asp	Gln	Ser	Pro	Cys	Ala	Gln	Pro	Thr	Met	Pro	Trp	Gln	Asp	Gly	
				210			215			220						
cca	aag	cag	acc	tcc	cca	agt	aga	gaa	gct	tca	gct	ctg	aca	gca	gag	721
Pro	Lys	Gln	Thr	Ser	Pro	Ser	Arg	Glu	Ala	Ser	Ala	Leu	Thr	Ala	Glu	
				225			230			235						
ggt	gga	agc	tgc	ctc	atc	tca	gga	ctc	cag	cct	ggc	aac	tcc	tac	tgg	769
Gly	Gly	Ser	Cys	Leu	Ile	Ser	Gly	Leu	Gln	Pro	Gly	Asn	Ser	Tyr	Trp	
				240			245			250						

ctg cag ctg cgc agc gaa cct gat ggg atc tcc ctc ggt ggc tcc tgg	817		
Leu Gln Leu Arg Ser Glu Pro Asp Gly Ile Ser Leu Gly Gly Ser Trp			
255	260	265	
gga tcc tgg tcc ctc act gtg act gtg gac ctg cct gga gat gca gtg	865		
Gly Ser Trp Ser Leu Thr Val Thr Val Asp Leu Pro Gly Asp Ala Val			
270	275	280	285
gca ctt gga ctg caa tgc ttt acc ttg gac ctg aag aat gtt acc tgt	913		
Ala Leu Gly Leu Gln Cys Phe Thr Leu Asp Leu Lys Asn Val Thr Cys			
290	295	300	
caa tgg cag caa cag gac cat gct agc tcc caa ggc ttc ttc tac cac	961		
Gln Trp Gln Gln Asp His Ala Ser Ser Gln Gly Phe Phe Tyr His			
305	310	315	
agc agg gca cgg tgc tgc ccc aga gac agg tac ccc atc tgg gag aac	1009		
Ser Arg Ala Arg Cys Cys Pro Arg Asp Arg Tyr Pro Ile Trp Glu Asn			
320	325	330	
tgc gaa gag gaa gag aaa aca aat cca gga cta cag acc cca cag ttc	1057		
Cys Glu Glu Glu Lys Thr Asn Pro Gly Leu Gln Thr Pro Gln Phe			
335	340	345	
tct cgc tgc cac ttc aag tca cga aat gac agc att att cac atc ctt	1105		
Ser Arg Cys His Phe Lys Ser Arg Asn Asp Ser Ile Ile His Ile Leu			
350	355	360	365
gtg gag gtg acc aca gcc ccg ggt act gtt cac agc tac ctg ggc tcc	1153		
Val Glu Val Thr Thr Ala Pro Gly Thr Val His Ser Tyr Leu Gly Ser			
370	375	380	
cct ttc tgg atc cac cag gct gtg cgc ctc ccc acc cca aac ttg cac	1201		
Pro Phe Trp Ile His Gln Ala Val Arg Leu Pro Thr Pro Asn Leu His			
385	390	395	

tgg agg gag atc tcc agt ggg cat ctg gaa ttg gag tgg cag cac cca	1249		
Trp Arg Glu Ile Ser Ser Gly His Leu Glu Leu Glu Trp Gln His Pro			
400	405	410	
tcg tcc tgg gca gcc caa gag acc tgt tat caa ctc cga tac aca gga	1297		
Ser Ser Trp Ala Ala Gln Glu Thr Cys Tyr Gln Leu Arg Tyr Thr Gly			
415	420	425	
gaa ggc cat cag gac tgg aag gtg ctg gag ccg cct ctc ggg gcc cga	1345		
Glu Gly His Gln Asp Trp Lys Val Leu Glu Pro Pro Leu Gly Ala Arg			
430	435	440	445
gga ggg acc ctg gag ctg cgc ccg cga tct cgc tac cgt tta cag ctg	1393		
Gly Gly Thr Leu Glu Leu Arg Pro Arg Ser Arg Tyr Arg Leu Gln Leu			
450	455	460	
cgc gcc agg ctc aac ggc ccc acc tac caa ggt ccc tgg agc tcg tgg	1441		
Arg Ala Arg Leu Asn Gly Pro Thr Tyr Gln Gly Pro Trp Ser Ser Trp			
465	470	475	
tcg gac cca act agg gtg gag acc gcc acc gag acc gcc tgg atc tcc	1489		
Ser Asp Pro Thr Arg Val Glu Thr Ala Thr Glu Thr Ala Trp Ile Ser			
480	485	490	
ttg gtg acc gct ctg cat cta gtg ctg ggc ctc agc gcc gtc ctg ggc	1537		
Leu Val Thr Ala Leu His Leu Val Leu Glu Leu Ser Ala Val Leu Gly			
495	500	505	
ctg ctg ctg agg tgg cag ttt cct gca cac tac agg aga ctg agg	1585		
Leu Leu Leu Leu Arg Trp Gln Phe Pro Ala His Tyr Arg Arg Leu Arg			
510	515	520	525
cat gcc ctg tgg ccc tca ctt cca gac ctg cac cgg gtc cta ggc cag	1633		
His Ala Leu Trp Pro Ser Leu Pro Asp Leu His Arg Val Leu Gly Gln			
530	535	540	

tac ctt agg gac act gca gcc ctg agc ccg ccc aag gcc aca gtc tca	1681		
Tyr Leu Arg Asp Thr Ala Ala Leu Ser Pro Pro Lys Ala Thr Val Ser			
545	550	555	
gat acc tgt gaa gaa gtg gaa ccc agc ctc ctt gaa atc ctc ccc aag	1729		
Asp Thr Cys Glu Glu Val Glu Pro Ser Leu Leu Glu Ile Leu Pro Lys			
560	565	570	
tcc tca gag agg act cct ttg ccc ctg tgt tcc tcc cag gcc cag atg	1777		
Ser Ser Glu Arg Thr Pro Leu Pro Leu Cys Ser Ser Gln Ala Gln Met			
575	580	585	
gac tac cga aga ttg cag cct tct tgc ctg ggg acc atg ccc ctg tct	1825		
Asp Tyr Arg Arg Leu Gln Pro Ser Cys Leu Gly Thr Met Pro Leu Ser			
590	595	600	605
gtg tgc cca ccc atg gct gag tca ggg tcc tgc tgt acc acc cac att	1873		
Val Cys Pro Pro Met Ala Glu Ser Gly Ser Cys Cys Thr Thr His Ile			
610	615	620	
gcc aac cat tcc tac cta cca cta agc tat tgg cag cag cct tga	1918		
Ala Asn His Ser Tyr Leu Pro Leu Ser Tyr Trp Gln Gln Pro			
625	630	635	
gtcgac	1924		

<210> 252
 <211> 635
 <212> PRT
 <213> Homo sapiens

 <400> 252

Met Pro Ser Trp Ala Leu Phe Met Val Thr Ser Cys Leu Leu Ala

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Pro Gin Asn Leu Ala Gin Val Ser Ser Gin Asp Val Ser Leu Leu Ala
20 25 30

Ser Asp Ser Glu Pro Leu Lys Cys Phe Ser Arg Thr Phe Glu Asp Leu
35 40 45

Thr Cys Phe Trp Asp Glu Glu Glu Ala Ala Pro Ser Gly Thr Tyr Gin
50 55 60

Leu Leu Tyr Ala Tyr Pro Arg Glu Lys Pro Arg Ala Cys Pro Leu Ser
65 70 75 80

Ser Gin Ser Met Pro His Phe Gly Thr Arg Tyr Val Cys Gin Phe Pro
85 90 95

Asp Gin Glu Glu Val Arg Leu Phe Phe Pro Leu His Leu Trp Val Lys
100 105 110

Asn Val Phe Leu Asn Gin Thr Arg Thr Gin Arg Val Leu Phe Val Asp
115 120 125

Ser Val Gly Leu Pro Ala Pro Pro Ser Ile Ile Lys Ala Met Gly Gly
130 135 140

Ser Gin Pro Gly Glu Leu Gin Ile Ser Trp Glu Glu Pro Ala Pro Glu
145 150 155 160

Ile Ser Asp Phe Leu Arg Tyr Glu Leu Arg Tyr Gly Pro Arg Asp Pro
165 170 175

Lys Asn Ser Thr Gly Pro Thr Val Ile Gln Leu Ile Ala Thr Glu Thr
180 185 190

Cys Cys Pro Ala Leu Gln Arg Pro His Ser Ala Ser Ala Leu Asp Gln
195 200 205

Ser Pro Cys Ala Gln Pro Thr Met Pro Trp Gln Asp Gly Pro Lys Gln
210 215 220

Thr Ser Pro Ser Arg Glu Ala Ser Ala Leu Thr Ala Glu Gly Gly Ser
225 230 235 240

Cys Leu Ile Ser Gly Leu Gln Pro Gly Asn Ser Tyr Trp Leu Gln Leu
245 250 255

Arg Ser Glu Pro Asp Gly Ile Ser Leu Gly Gly Ser Trp Gly Ser Trp
260 265 270

Ser Leu Thr Val Thr Val Asp Leu Pro Gly Asp Ala Val Ala Leu Gly
275 280 285

Leu Gln Cys Phe Thr Leu Asp Leu Lys Asn Val Thr Cys Gln Trp Gln
290 295 300

Gln Gln Asp His Ala Ser Ser Gln Gly Phe Phe Tyr His Ser Arg Ala
305 310 315 320

Arg Cys Cys Pro Arg Asp Arg Tyr Pro Ile Trp Glu Asn Cys Glu Glu
325 330 335

Glu Glu Lys Thr Asn Pro Gly Leu Gln Thr Pro Gln Phe Ser Arg Cys
340 345 350

His Phe Lys Ser Arg Asn Asp Ser Ile Ile His Ile Leu Val Glu Val
355 360 365

Thr Thr Ala Pro Gly Thr Val His Ser Tyr Leu Gly Ser Pro Phe Trp
370 375 380

Ile His Gln Ala Val Arg Leu Pro Thr Pro Asn Leu His Trp Arg Glu
385 390 395 400

Ile Ser Ser Gly His Leu Glu Leu Glu Trp Gln His Pro Ser Ser Trp
405 410 415

Ala Ala Gln Glu Thr Cys Tyr Gln Leu Arg Tyr Thr Gly Glu Gly His
420 425 430

Gln Asp Trp Lys Val Leu Glu Pro Pro Leu Gly Ala Arg Gly Gly Thr
435 440 445

Leu Glu Leu Arg Pro Arg Ser Arg Tyr Arg Leu Gln Leu Arg Ala Arg
450 455 460

Leu Asn Gly Pro Thr Tyr Gln Gly Pro Trp Ser Ser Trp Ser Asp Pro
465 470 475 480

Thr Arg Val Glu Thr Ala Thr Glu Thr Ala Trp Ile Ser Leu Val Thr
485 490 495

Ala Leu His Leu Val Leu Gly Leu Ser Ala Val Leu Gly Leu Leu Leu
500 505 510

Leu Arg Trp Gln Phe Pro Ala His Tyr Arg Arg Leu Arg His Ala Leu
515 520 525

Trp Pro Ser Leu Pro Asp Leu His Arg Val Leu Gly Gln Tyr Leu Arg
530 535 540

Asp Thr Ala Ala Leu Ser Pro Pro Lys Ala Thr Val Ser Asp Thr Cys
545 550 555 560

Glu Glu Val Glu Pro Ser Leu Leu Glu Ile Leu Pro Lys Ser Ser Glu
565 570 575

Arg Thr Pro Leu Pro Leu Cys Ser Ser Gln Ala Gln Met Asp Tyr Arg
580 585 590

Arg Leu Gin Pro Ser Cys Leu Gly Thr Met Pro Leu Ser Val Cys Pro
 595 600 605

Pro Met Ala Glu Ser Gly Ser Cys Cys Thr Thr His Ile Ala Asn His
 610 615 620

Ser Tyr Leu Pro Leu Ser Tyr Trp Gin Gin Pro
 625 630 635

<210> 253

<211> 1572

<212> DNA

<213> Homo sapiens

<400> 253

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tgcaaggctt ctggatacac cttcaccaac tcctggatga actgggtgag gcagaggcct 180

ggaaagggtc ttgagtggtt tggacggatt tatcctggag atggagaaac tatctacaat 240

ggaaattca gggcagagt cacgattacc gcccacgaaat ccacgagcac agcctacatg 300

gagctgagca gcctgagatc tgaggacacg gccgtgtatt actgtgcgag aggctatgt 360

gattacttgt ttgcctactg gggccagggaa accacggtca ccgtctcttc aggtgggtgt 420

ggatccggag gtgggtggatc gggtggtgga ggatcggata ttgtgatgac tcagtcgtca 480

ctctccctgc ccgtcacccc tggagagccg gcctccatct cctgcaggc tagtaaggt	540
ctcctgcata gtaatggcaa cacttacttg tattggtacc tgcagaagcc agggcagtct	600
ccacagctcc tcatctatcg gatgtccaaac cttgcctcag gggccctga caggttcagt	660
ggcagtgat caggcacagc ttttacactg aaaatcagca gagtggaggc tgaggatgtt	720
ggggtttatt actgcatgca acatataaaaa tatcctttt ctttcggcca agggacaaaa	780
ctggaaatca aaggagggtgg tggatcgggt ggtgggttt cgggaggcgg tggatcgcag	840
gtgcagctgg tgcagtctgg acctgaggtg aagaagcctg gggcctcagt gaaggctcc	900
tgcaaggctt ctggatacac cttcaccaac tcctggatga actgggttag gcagaggcct	960
ggaaagggtc ttgagtgggt tggacggatt tatcctggag atggagaaac tatctacaat	1020
ggaaattca gggtcagagt cacgattacc gggacgaat ccacgagcac agcctacatg	1080
gagctgagca gcctgagatc tgaggacacg gcccgttatt actgtgcgag aggctatgt	1140
gattactcgt ttgttactg gggccaggga accacggta cctgtcttc aggtgggtt	1200
ggatccggag gtgggtggatc ggggtggta ggatcgata ttgtgtatgc tcagtctgca	1260
ctctccctgc ccgtcacccc tggagagccg gcctccatct cctgcaggc tagtaaggt	1320
ctcctgcata gtaatggcaa cacttacttg tattggtacc tgcagaagcc agggcagtct	1380
ccacagctcc tcatctatcg gatgtccaaac cttgcctcag gggccctga caggttcagt	1440
ggcagtgat caggcacagc ttttacactg aaaatcagca gagtggaggc tgaggatgtt	1500
ggggtttatt actgcatgca acatataaaaa tatcctttt ctttcggcca agggacaaaa	1560

ctggaaatca aa

1572

<210> 254

<211> 524

<212> PRT

<213> Homo sapiens

<400> 254

Met Asp Trp Thr Trp Arg Phe Leu Phe Val Val Ala Ala Ala Thr Gly

1 5 10 15

Val Gln Ser Gln Val Gln Leu Val Gln Ser Gly Pro Glu Val Lys Lys

20 25 30

Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe

35 40 45

Thr Asn Ser Trp Met Asn Trp Val Arg Gln Arg Pro Gly Lys Gly Leu

50 55 60

Glu Trp Val Gly Arg Ile Tyr Pro Gly Asp Gly Glu Thr Ile Tyr Asn

65 70 75 80

Gly Lys Phe Arg Val Arg Val Thr Ile Thr Ala Asp Glu Ser Thr Ser

85 90 95

Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val

100

105

110

Tyr Tyr Cys Ala Arg Gly Tyr Asp Asp Tyr Ser Phe Ala Tyr Trp Gly

115

120

125

Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Ser Gly Gly

130

135

140

Gly Gly Ser Gly Gly Gly Ser Asp Ile Val Met Thr Gln Ser Ala

145

150

155

160

Leu Ser Leu Pro Val Thr Pro Gly Glu Pro Ala Ser Ile Ser Cys Arg

165

170

175

Ser Ser Lys Ser Leu Leu His Ser Asn Gly Asn Thr Tyr Leu Tyr Trp

180

185

190

Tyr Leu Gln Lys Pro Gly Gln Ser Pro Gln Leu Leu Ile Tyr Arg Met

195

200

205

Ser Asn Leu Ala Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser

210

215

220

Gly Thr Ala Phe Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Val

225

230

235

240

Gly Val Tyr Tyr Cys Met Gln His Ile Glu Tyr Pro Phe Thr Phe Gly

170

245

250

255

Gln Gly Thr Lys Leu Glu Ile Lys Gly Gly Gly Ser Gly Gly

260

265

270

Gly Ser Gly Gly Gly Ser Gin Val Gin Leu Val Gin Ser Gly Pro

275

280

285

Glu Val Lys Lys Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser

290

295

300

Gly Tyr Thr Phe Thr Asn Ser Trp Met Asn Trp Val Arg Gin Arg Pro

305

310

315

320

Gly Lys Gly Leu Glu Trp Val Gly Arg Ile Tyr Pro Gly Asp Gly Glu

325

330

335

Thr Ile Tyr Asn Gly Lys Phe Arg Val Arg Val Thr Ile Thr Ala Asp

340

345

350

Glu Ser Thr Ser Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu

355

360

365

Asp Thr Ala Val Tyr Tyr Cys Ala Arg Gly Tyr Asp Asp Tyr Ser Phe

370

375

380

Ala Tyr Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly

385

390

395

400

Gly Ser Gly Gly Gly Ser Gly Gly Gly Ser Asp Ile Val Met

405

410

415

Thr Gln Ser Ala Leu Ser Leu Pro Val Thr Pro Gly Glu Pro Ala Ser

420

425

430

Ile Ser Cys Arg Ser Ser Lys Ser Leu Leu His Ser Asn Gly Asn Thr

435

440

445

Tyr Leu Tyr Trp Tyr Leu Gln Lys Pro Gly Gln Ser Pro Gln Leu Leu

450

455

460

Ile Tyr Arg Met Ser Asn Leu Ala Ser Gly Val Pro Asp Arg Phe Ser

465

470

475

480

Gly Ser Gly Ser Gly Thr Ala Phe Thr Leu Lys Ile Ser Arg Val Glu

485

490

495

Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln His Ile Glu Tyr Pro

500

505

510

Phe Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys

515

520

<211> 354

<212> DNA

<213> Homo sapiens

<400> 255

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tcctgcaagg cttctggata cacccacc aactcctgga tgaactgggt gaggcagagg 120

cctggaaagg gtcttgagtg gttggacgg atttacccctg gagatggaga aactatctac 180

aatggaaat tcagggtcag agtcacgatt accggggacg aatccacgag cacagccatc 240

atggagctga gcagcctgag atctgaggac acggccgtgt attactgtgc gagaggctat 300

gatgattact cgtttgccta ctggggccag ggaaccacgg tcaccgtctc ttca 354

<210> 256

<211> 118

<212> PRT

<213> Homo sapiens

<400> 256

Gln Val Gln Leu Val Gln Ser Gly Pro Glu Val Lys Lys Pro Gly Ala

1

5

10

15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Ser

20

25

30

Trp Met Asn Trp Val Arg Gln Arg Pro Gly Lys Gly Leu Glu Trp Val

35

40

45

Gly Arg Ile Tyr Pro Gly Asp Gly Glu Thr Ile Tyr Asn Gly Lys Phe

50 55 60

Arg Val Arg Val Thr Ile Thr Ala Asp Glu Ser Thr Ser Thr Ala Tyr

65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys

85 90 95

Ala Arg Gly Tyr Asp Asp Tyr Ser Phe Ala Tyr Trp Gly Gin Gly Thr

100 105 110

Thr Val Thr Val Ser Ser

115

<210> 257

<211> 336

<212> DNA

<213> Homo sapiens

<400> 257

gatattgtga tgactcagtc tgcactctcc ctgccccgtca cccctggaga gccggcctcc 60

atctcctgca ggtctagtaa gagtctccctg catagtaatg gcaacactta cttgtattgg 120

tacctgcaga agccaggcga gtctccacag ctcctgatct atcggatgtc caacccgtcc 180

tcaggggtcc ctgacaggtt cagtggcagt ggatcaggca cagctttac actgaaaatc 240

agcagagttgg aggctgagga tgggggtt tattactgca tgcaacatata agaatatcct 300

tttacgttcg gccaaaggac caaactggaa atcaaa 336

<210> 258

<211> 112

<212> PRT

<213> Homo sapiens

<400> 258

Asp Ile Val Met Thr Gln Ser Ala Leu Ser Leu Pro Val Thr Pro Gly

1 5 10 15

Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Lys Ser Leu Leu His Ser

20 25 30

Asn Gly Asn Thr Tyr Leu Tyr Trp Tyr Leu Gln Lys Pro Gly Gln Ser

35 40 45

Pro Gln Leu Leu Ile Tyr Arg Met Ser Asn Leu Ala Ser Gly Val Pro

50 55 60

Asp Arg Phe Ser Gly Ser Gly Thr Ala Phe Thr Leu Lys Ile

65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln His

85 90 95

Ile Glu Tyr Pro Phe Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys

100

105

110

<210> 259

<211> 1572

<212> DNA

<213> Homo sapiens

<400> 259

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gtgcagctgg tgcagtctgg acctgaggtg aagaaggctg gggcctcagt gaaggctcc 120

tgcaaggctt ctggatacac cttcaccaac tcctggatga actggatcag gcagaggcct 180

ggaaagggtc ttgagtggat tggacggatt tattcctggag atggagaaac tatctacaat 240

gggaaattca gggtcagagt cacgattacc gcggacgaat ccacgagcac agcctacatg 300

gagctgagca gcctgagatc tgaggacacg gccgtgtatt actgtgcgag aggctatgat 360

gattactcgt ttgcctactg gggccaggga accctggtaa ccgtctcttc aggtgtgg 420

ggatccggag gtgggtggatc ggggtggtaa ggatcgata ttgtgtatgac tcagtcgtca 480

ctctccctgc ccgtcacccc tggagagccg gcctccatct cctgcaggta tagtaaggt 540

ctcctgcata gtaatggcaa cacttacttg tattggtaacc tgcagaagcc agggcagtct 600

ccacagctcc tgcgttatcg gatgtccaaac cttgcctcag gggccctga caggttcagt 660

ggcagttggat caggcacagc ttttacactg aaaatcagca gagttggaggc tgaggatgtt 720

ggggtttatt actgcgtgcata acatataaaaa tatcccttttgcgttccca agggacccaaa 780

ctggaaatca aaggaggtgg tggatcggtt ggtgggtt cgggaggcgg tggatcgca 840

gtgcagctgg tgcagtctgg acctgaggtg aagaaggcctg gggcctcagt gaaggctcc 900
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 ggggtttatt actgcattgca acatatacaa tatcccttta cgttcggcca agggacccaa 1560
 ctggaaatca aa 1572

<210> 260

<211> 524

<212> PRT

<213> Homo sapiens

<400> 260

Met Asp Trp Thr Trp Arg Phe Leu Phe Val Val Ala Ala Ala Thr Gly
1 5 10 15

Val Gln Ser Gln Val Gln Leu Val Gln Ser Gly Pro Glu Val Lys Lys
20 25 30

Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe
35 40 45

Thr Asn Ser Trp Met Asn Trp Ile Arg Gln Arg Pro Gly Lys Gly Leu
50 55 60

Glu Trp Ile Gly Arg Ile Tyr Pro Gly Asp Gly Glu Thr Ile Tyr Asn
65 70 75 80

Gly Lys Phe Arg Val Arg Val Thr Ile Thr Ala Asp Glu Ser Thr Ser
85 90 95

Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val
100 105 110

Tyr Tyr Cys Ala Arg Gly Tyr Asp Asp Tyr Ser Phe Ala Tyr Trp Gly
115 120 125

Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly Ser Gly Gly
130 135 140

Gly Gly Ser Gly Gly Ser Asp Ile Val Met Thr Gin Ser Ala
145 150 155 160

Leu Ser Leu Pro Val Thr Pro Gly Glu Pro Ala Ser Ile Ser Cys Arg
165 170 175

Ser Ser Lys Ser Leu Leu His Ser Asn Gly Asn Thr Tyr Leu Tyr Trp
180 185 190

Tyr Leu Gin Lys Pro Gly Gin Ser Pro Gin Leu Leu Ile Tyr Arg Met
195 200 205

Ser Asn Leu Ala Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser
210 215 220

Gly Thr Ala Phe Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Val
225 230 235 240

Gly Val Tyr Tyr Cys Met Gin His Ile Glu Tyr Pro Phe Thr Phe Gly
245 250 255

Gin Gly Thr Lys Leu Glu Ile Lys Gly Gly Gly Ser Gly Gly Gly
260 265 270

Gly Ser Gly Gly Gly Ser Gin Val Gin Leu Val Gin Ser Gly Pro
275 280 285

Glu Val Lys Lys Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser
290 295 300

Gly Tyr Thr Phe Thr Asn Ser Trp Met Asn Trp Ile Arg Gln Arg Pro
305 310 315 320

Gly Lys Gly Leu Glu Trp Ile Gly Arg Ile Tyr Pro Gly Asp Gly Glu
325 330 335

Thr Ile Tyr Asn Gly Lys Phe Arg Val Arg Val Thr Ile Thr Ala Asp
340 345 350

Glu Ser Thr Ser Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu
355 360 365

Asp Thr Ala Val Tyr Tyr Cys Ala Arg Gly Tyr Asp Asp Tyr Ser Phe
370 375 380

Ala Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ser Gly Gly Gly
385 390 395 400

Gly Ser Gly Gly Gly Ser Gly Gly Ser Asp Ile Val Met
405 410 415

Thr Gln Ser Ala Leu Ser Leu Pro Val Thr Pro Gly Glu Pro Ala Ser
420 425 430

Ile Ser Cys Arg Ser Ser Lys Ser Leu Leu His Ser Asn Gly Asn Thr
 435 440 445

Tyr Leu Tyr Trp Tyr Leu Gln Lys Pro Gly Gln Ser Pro Gln Leu Leu
 450 455 460

Ile Tyr Arg Met Ser Asn Leu Ala Ser Gly Val Pro Asp Arg Phe Ser
 465 470 475 480

Gly Ser Gly Ser Gly Thr Ala Phe Thr Leu Lys Ile Ser Arg Val Glu
 485 490 495

Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln His Ile Glu Tyr Pro
 500 505 510

Phe Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 515 520

<210> 261

<211> 354

<212> DNA

<213> Homo sapiens

<400> 261

caggtgcagtc tggacctgag gtgaagaagc ctggggcctc agtgaaggc 60

tcctgcaagg cttctggata caccttcacc aactcctgga tgaactggat caggcagagg 120

cctggaaagg gtcttgagtg gattggacgg atttatcctg gagatggaga aactatctac 180

aatggaaat tcagggtcag agtcacgatt accggggacg aatccacgag cacagcc tac 240

atggagctga gcagcctgag atctgaggac acggccgtgt attactgtgc gagaggctat 300

gatgattact cgtttgccta ctggggccag ggaaccctgg tcaccgtctc ttca 354

<210> 262

<211> 118

<212> PRT

<213> Homo sapiens

<400> 262

Gln Val Gln Leu Val Gln Ser Gly Pro Glu Val Lys Lys Pro Gly Ala

1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Ser

20 25 30

Trp Met Asn Trp Ile Arg Gln Arg Pro Gly Lys Gly Leu Glu Trp Ile

35 40 45

Gly Arg Ile Tyr Pro Gly Asp Gly Glu Thr Ile Tyr Asn Gly Lys Phe

50 55 60

Arg Val Arg Val Thr Ile Thr Ala Asp Glu Ser Thr Ser Thr Ala Tyr

65 70 75 80

Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys

85 90 95

Ala Arg Gly Tyr Asp Asp Tyr Ser Phe Ala Tyr Trp Gly Gln Gly Thr
 100 105 110

Leu Val Thr Val Ser Ser
 115

<210> 263

<211> 1572

<212> DNA

<213> *Mus musculus*

<400> 263

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gttcaagtcgc agcagtctgg acctgagctg gtgaaggcctg gggcctcagt gaagatttcc 120

tgcaaggctt ctggctatgc attcaactaac tcctggatga actgggtgaa gcagaggcct 180

ggaaagggtc ttgagtggtt tggacggatt tatcctggag atggagaaac tatctacaat 240

ggaaattca gggtaaggc cacactgact gcagacaaat cctccagcac agcctacatg 300

gatatcagca gcctgacatc tgaggactct gcggctact tctgtgcaag aggctatgat 360

gattactcgt ttgcttactg gggcaaggg actctggta ctgtctctgc aggtgggtgt 420

ggttcgggtg gtgggtggtc ggggtggc ggatcggata ttgtgatgac tcaggctgca 480

ccctctatac ctgtcactcc tggagagtca gatccatct cctgttaggtc tagtaagagt 540

ctcctgcata gtaatggcaa cacttacttg tattggttcc tgcagaggcc aggcagtc 600

cctcaactcc t gat atata tgc gatgtccaa c cttgc c tcag g gagtcccaga tag tt c g t	660
ggc ag tgggt c ag gaactgc t tt cacactg aga at cag t g a gtggaggc tgaggat gt g	720
g gt gtttatt actgtat gc a acatata gaa tatc c ttta c gt tcggat c gggaccaag	780
ctggaaataa aaggagg tgg tggat cgg gt g gt gg tt c gg gaggc gg tggat cg cag	840
gttcag c tc agc ag tctgg acctgag ct g t gaag c ctg g gg c c t ag t gaagat tt cc	900
tgcaagg c tt ctggctat gc attcactaa c tcctggat g a actgggt g aa gcagagg c c t	960
ggaaagg gt c ttgag tgg at tggac gg att t at c c ttggag atggagaa ac tat c tacaat	1020
gggaaatt ca g gg tcaaggc cacactgact gcagaca aa at c ct ccag c ac agc c c ta c at g	1080
gat at cag ca gc ct gac at c tgaggact c t g cg gt c tact t c t gt gcaag aggctat gt at	1140
gattactc gt ttgcttactg g gg ccaagg g actctgg tca ctgtctct gc ag gt gg tt gg t	1200
g tt tcgggt g gtgg tt g tt tc g gg tg tt gg g g g at cg gata ttgtgat g ac tcagg gt gca	1260
ccctctata c ctgtcactcc tggag gt tca g t atccat c t c c t gt tag gt tc tagtaa g gt	1320
ctcctgcata g ta atgg ca a cacttact tg tattgg tt cc tgc ag agg cc aggcc c agt c t	1380
cctcaactcc t gat atata tgc gatgtccaa c cttgc c tcag g gagtcccaga tag tt c g t	1440
ggc ag tgggt c ag gaactgc t tt cacactg aga at cag t g a gtggaggc tgaggat gt g	1500
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ctggaaataa aa	1572

<211> 524

<212> PRT

<213> *Mus musculus*

<400> 264

Met Glu Trp Pro Leu Ile Phe Leu Phe Leu Leu Ser Gly Thr Ala Gly

1

5

10

15

Val His Ser Gln Val Gln Leu Gln Gln Ser Gly Pro Glu Leu Val Lys

20

25

30

Pro Gly Ala Ser Val Lys Ile Ser Cys Lys Ala Ser Gly Tyr Ala Phe

35

40

45

Thr Asn Ser Trp Met Asn Trp Val Lys Gln Arg Pro Gly Lys Gly Leu

50

55

60

Glu Trp Ile Gly Arg Ile Tyr Pro Gly Asp Gly Glu Thr Ile Tyr Asn

65

70

75

80

Gly Lys Phe Arg Val Lys Ala Thr Leu Thr Ala Asp Lys Ser Ser Ser

85

90

95

Thr Ala Tyr Met Asp Ile Ser Ser Leu Thr Ser Glu Asp Ser Ala Val

100

105

110

Tyr Phe Cys Ala Arg Gly Tyr Asp Asp Tyr Ser Phe Ala Tyr Trp Gly

115

120

125

Gln Gly Thr Leu Val Thr Val Ser Ala Gly Gly Gly Ser Gly Gly
130 135 140

Gly Gly Ser Gly Gly Gly Ser Asp Ile Val Met Thr Gin Ala Ala
145 150 155 160

Pro Ser Ile Pro Val Thr Pro Gly Glu Ser Val Ser Ile Ser Cys Arg
165 170 175

Ser Ser Lys Ser Leu Leu His Ser Asn Gly Asn Thr Tyr Leu Tyr Trp
180 185 190

Phe Leu Gin Arg Pro Gly Gin Ser Pro Gin Leu Leu Ile Tyr Arg Met
195 200 205

Ser Asn Leu Ala Ser Gly Val Pro Asp Arg Phe Ser Gly Ser
210 215 220

Gly Thr Ala Phe Thr Leu Arg Ile Ser Arg Val Glu Ala Glu Asp Val
225 230 235 240

Gly Val Tyr Tyr Cys Met Gin His Ile Glu Tyr Pro Phe Thr Phe Gly
245 250 255

Ser Gly Thr Lys Leu Glu Ile Lys Gly Gly Gly Ser Gly Gly Gly
260 265 270

Gly Ser Gly Gly Ser Gly Ser Gln Val Gln Leu Gln Gln Ser Gly Pro
275 280 285

Glu Leu Val Lys Pro Gly Ala Ser Val Lys Ile Ser Cys Lys Ala Ser
290 295 300

Gly Tyr Ala Phe Thr Asn Ser Trp Met Asn Trp Val Lys Gln Arg Pro
305 310 315 320

Gly Lys Gly Leu Glu Trp Ile Gly Arg Ile Tyr Pro Gly Asp Gly Glu
325 330 335

Thr Ile Tyr Asn Gly Lys Phe Arg Val Lys Ala Thr Leu Thr Ala Asp
340 345 350

Lys Ser Ser Ser Thr Ala Tyr Met Asp Ile Ser Ser Leu Thr Ser Glu
355 360 365

Asp Ser Ala Val Tyr Phe Cys Ala Arg Gly Tyr Asp Asp Tyr Ser Phe
370 375 380

Ala Tyr Trp Gly Gln Gly Thr Leu Val Thr Val Ser Ala Gly Gly Gly
385 390 395 400

Gly Ser Gly Gly Ser Gly Gly Ser Asp Ile Val Met

405

410

415

Thr Gln Ala Ala Pro Ser Ile Pro Val Thr Pro Gly Glu Ser Val Ser

420

425

430

Ile Ser Cys Arg Ser Ser Lys Ser Leu Leu His Ser Asn Gly Asn Thr

435

440

445

Tyr Leu Tyr Trp Phe Leu Gln Arg Pro Gly Gln Ser Pro Gln Leu Leu

450

455

460

Ile Tyr Arg Met Ser Asn Leu Ala Ser Gly Val Pro Asp Arg Phe Ser

465

470

475

480

Gly Ser Gly Ser Gly Thr Ala Phe Thr Leu Arg Ile Ser Arg Val Glu

485

490

495

Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln His Ile Glu Tyr Pro

500

505

510

Phe Thr Phe Gly Ser Gly Thr Lys Leu Glu Ile Lys

515

520

<210> 265

<211> 30

<212> PRT

<213> Homo sapiens

<400> 265

Gln Val Gln Leu Val Gln Ser Gly Pro Glu Val Lys Lys Pro Gly Ala
1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr
20 25 30

<210> 266

<211> 5

<212> PRT

<213> Homo sapiens

<400> 266

Asn Ser Trp Met Asn

1 5

<210> 267

<211> 14

<212> PRT

<213> Homo sapiens

<400> 267

Trp Val Arg Gln Arg Pro Gly Lys Gly Leu Glu Trp Val Gly

1 5 10

<210> 268

<211> 17

<212> PRT

<213> Homo sapiens

<400> 268

Arg Ile Tyr Pro Gly Asp Gly Glu Thr Ile Tyr Asn Gly Lys Phe Arg
1 5 10 15

Val

<210> 269

<211> 32

<212> PRT

<213> Homo sapiens

<400> 269

Arg Val Thr Ile Thr Ala Asp Glu Ser Thr Ser Thr Ala Tyr Met Glu
1 5 10 15

Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg
20 25 30

<210> 270

<211> 9

<212> PRT

<213> Homo sapiens

<400> 270

Gly Tyr Asp Asp Tyr Ser Phe Ala Tyr
1 5

<210> 271

<211> 11

<212> PRT

<213> Homo sapiens

<400> 271

Trp Gly Gin Gly Thr Thr Val Thr Val Ser Ser

1 5 10

<210> 272

<211> 23

<212> PRT

<213> Homo sapiens

<400> 272

Asp Ile Val Met Thr Gin Ser Ala Leu Ser Leu Pro Val Thr Pro Gly

1 5 10 15

Glu Pro Ala Ser Ile Ser Cys

20

<210> 273

<211> 16

<212> PRT

<213> Homo sapiens

<400> 273

Arg Ser Ser Lys Ser Leu Leu His Ser Asn Gly Asn Thr Tyr Leu Tyr

1 5 10 15

<210> 274

<211> 15

<212> PRT

<213> Homo sapiens

<400> 274

Trp Tyr Leu Gln Lys Pro Gly Gln Ser Pro Gln Leu Leu Ile Tyr

1 5 10 15

<210> 275

<211> 7

<212> PRT

<213> Homo sapiens

<400> 275

Arg Met Ser Asn Leu Ala Ser

1 5

<210> 276

<211> 32

<212> PRT

<213> Homo sapiens

<400> 276

Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Ala Phe Thr

1 5 10 15

Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys

20

25

30

<210> 277

<211> 9

<212> PRT

<213> Homo sapiens

<400> 277

Met Gin His Ile Glu Tyr Pro Phe Thr

1 5

<210> 278

<211> 10

<212> PRT

<213> Homo sapiens

<400> 278

Phe Gly Gin Gly Thr Lys Leu Glu Ile Lys

1 5 10

<210> 279

<211> 30

<212> PRT

<213> Homo sapiens

<400> 279

Gin Val Gin Leu Val Gin Ser Gly Pro Glu Val Lys Lys Pro Gly Ala

1

5

10

15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr
20 25 30

<210> 280

<211> 5

<212> PRT

<213> Homo sapiens

<400> 280

Asn Ser Trp Met Asn

1 5

<210> 281

<211> 14

<212> PRT

<213> Homo sapiens

<400> 281

Trp Ile Arg Gln Arg Pro Gly Lys Gly Leu Glu Trp Ile Gly

1 5 10

<210> 282

<211> 17

<212> PRT

<213> Homo sapiens

<400> 282

Arg Ile Tyr Pro Gly Asp Gly Glu Thr Ile Tyr Asn Gly Lys Phe Arg

1 5 10 15

Val

<210> 283

<211> 32

<212> PRT

<213> Homo sapiens

<400> 283

Arg Val Thr Ile Thr Ala Asp Glu Ser Thr Ser Thr Ala Tyr Met Glu

1

5

10

15

Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg

20

25

30

<210> 284

<211> 9

<212> PRT

<213> Homo sapiens

<400> 284

Gly Tyr Asp Asp Tyr Ser Phe Ala Tyr

1

5

<210> 285

<211> 11

<212> PRT

<213> Homo sapiens

<400> 285

Trp Gly Gin Gly Thr Leu Val Thr Val Ser Ser

1 5 10

<210> 286

<211> 1572

<212> DNA

<213> Homo sapiens

<400> 286

atggactgga cctggaggtt cctctttgtg gtggcagcag ctacaggtgt ccagtcccag 60

gtgcagctgg tgcagtcgtt acctgaggtt aagaaggctg gggcctcagt gaaggtctcc 120

tgcaaggctt ctggatacac cttcaccaac tcctggatga actgggtgag gcagaggcct 180

ggaaagggtc ttgagtggat tggacggatt tatcctggag atggagaaac tatctacaat 240

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caactgagca gcctgagatc tgaggacacg gccgtgtatt actgtgcgag aggctatgt 360

gattactcgt ttgcttactg gggccagggta accacggtaa ccgtctttc aggtgggtgt 420

ggatccggag gtgggtggatc gggtgggtgga ggatcgata ttgtgtatgac tcagtcctca 480

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ctcctgcata gtaatggcaa cacttacttg tattgggttcc tgcagaagcc agggcagtct 600

ccacagctcc tgcgttatcg gatgtccaaac cttgcctcag gggtccctga caggttcagt 660

ggcagtggat caggcacaga ttttacactg aaaatcagca gagtggagcc tgaggatgtt 720

ggggttatt actgcatgca acatatacaa tatccttta cggtcgccca agggaccaa 780
 ctggaaatca aaggaggtegg tggatcggtt ggtgggtgtt cgggaggcgg tggatcgca 840
 gtgcagctgg tgcagtcgtt acctgagggtg aagaagcctg gggctcagt gaaggctcc 900
 tgcaaggctt ctggatacac ctccaccaac tcctggatga actgggtgag gcagaggcct 960
 ggaaagggtc ttgagtggat tggacggatt tatcctggag atggagaaac tatctacaat 1020
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 gattactcg tttgttactg gggccagggta accacggtca ccgtctttc aggtgggtt 1200
 ggatccggag gtgggtggatc ggggtggta ggatcggtata ttgtgtatgc tcagtcctca 1260
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 ctcctgcata gtaatggcaa cacttacttg tatiggttcc tgcagaagcc agggcagtct 1380
 ccacagctcc tgaatctatcg gatgtccaaac cttgcctcag gggtccctga caggttcagt 1440
 ggcagtggat cagggcacaga ttttacactg aaaatcagca gagtgaggc tgaggatgtt 1500
 ggggttatt actgcatgca acatatacaa tatccttta cggtcgccca agggaccaa 1560
 ctggaaatca aa 1572

<210> 287
 <211> 524
 <212> PRT
 <213> Homo sapiens

<400> 287

Met Asp Trp Thr Trp Arg Phe Leu Phe Val Val Ala Ala Ala Thr Gly
1 5 10 15

Val Gln Ser Gln Val Gln Leu Val Gln Ser Gly Pro Glu Val Lys Lys
20 25 30

Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe
35 40 45

Thr Asn Ser Trp Met Asn Trp Val Arg Gln Arg Pro Gly Lys Gly Leu
50 55 60

Glu Trp Ile Gly Arg Ile Tyr Pro Gly Asp Gly Glu Thr Ile Tyr Asn
65 70 75 80

Gly Lys Phe Arg Val Arg Val Thr Ile Thr Ala Asp Glu Ser Thr Ser
85 90 95

Thr Ala Tyr Met Gln Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val
100 105 110

Tyr Tyr Cys Ala Arg Gly Tyr Asp Asp Tyr Ser Phe Ala Tyr Trp Gly
115 120 125

Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Ser Gly Gly

130

135

140

Gly Gly Ser Gly Gly Gly Ser Asp Ile Val Met Thr Gin Ser Pro
145 150 155 160

Leu Ser Leu Pro Val Thr Pro Gly Glu Pro Ala Ser Ile Ser Cys Arg
165 170 175

Ser Ser Lys Ser Leu Leu His Ser Asn Gly Asn Thr Tyr Leu Tyr Trp
180 185 190

Phe Leu Gin Lys Pro Gly Gin Ser Pro Gin Leu Leu Ile Tyr Arg Met
195 200 205

Ser Asn Leu Ala Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser
210 215 220

Gly Thr Asp Phe Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Val
225 230 235 240

Gly Val Tyr Tyr Cys Met Gin His Ile Glu Tyr Pro Phe Thr Phe Gly
245 250 255

Gin Gly Thr Lys Leu Glu Ile Lys Gly Gly Gly Ser Gly Gly Gly
260 265 270

Gly Ser Gly Gly Gly Ser Gin Val Gin Leu Val Val Gin Ser Gly Pro

275

280

285

Glu Val Lys Lys Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser

290

295

300

Gly Tyr Thr Phe Thr Asn Ser Trp Met Asn Trp Val Arg Gln Arg Pro

305

310

315

320

Gly Lys Gly Leu Glu Trp Ile Gly Arg Ile Tyr Pro Gly Asp Gly Glu

325

330

335

Thr Ile Tyr Asn Gly Lys Phe Arg Val Arg Val Thr Ile Thr Ala Asp

340

345

350

Glu Ser Thr Ser Thr Ala Tyr Met Gln Leu Ser Ser Leu Arg Ser Glu

355

360

365

Asp Thr Ala Val Tyr Tyr Cys Ala Arg Gly Tyr Asp Asp Tyr Ser Phe

370

375

380

Ala Tyr Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly

385

390

395

400

Gly Ser Gly Gly Gly Ser Gly Gly Gly Ser Asp Ile Val Met

405

410

415

Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Pro Gly Glu Pro Ala Ser

200

420

425

430

Ile Ser Cys Arg Ser Ser Lys Ser Leu Leu His Ser Asn Gly Asn Thr

435

440

445

Tyr Leu Tyr Trp Phe Leu Gln Lys Pro Gly Gln Ser Pro Gln Leu Leu

450

455

460

Ile Tyr Arg Met Ser Asn Leu Ala Ser Gly Val Pro Asp Arg Phe Ser

465

470

475

480

Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile Ser Arg Val Glu

485

490

495

Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln His Ile Glu Tyr Pro

500

505

510

Phe Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys

515

520

<210> 288

<211> 354

<212> DNA

<213> Homo sapiens

<400> 288

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tcctgcaagg cttctggata caccttcacc aactcctgga tgaactgggt gaggcagagg 120

cctggaaagg gtcttgagtg gatggacgg atttatcctg gagatggaga aactatctac 180
 aatggaaat tcagggtcag agtcacgatt accgcggacg aatccacgag cacagcctac 240
 atgcaactga gcagcctgag atctgaggac acggccgtgt attactgtgc gagaggctat 300
 gatgattact cgtttgccta ctggggccag ggaaccacgg tcaccgtctc ttca 354

<210> 289
 <211> 1.18
 <212> PRT
 <213> Homo sapiens
 <400> 289

Gln Val Gln Leu Val Gln Ser Gly Pro Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Ser
 20 25 30

Trp Met Asn Trp Val Arg Gln Arg Pro Gly Lys Gly Leu Glu Trp Ile
 35 40 45

Gly Arg Ile Tyr Pro Gly Asp Gly Glu Thr Ile Tyr Asn Gly Lys Phe
 50 55 60

Arg Val Arg Val Thr Ile Thr Ala Asp Glu Ser Thr Ser Thr Ala Tyr
 65 70 75 80

Met Gln Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys

85

90

95

Ala Arg Gly Tyr Asp Asp Tyr Ser Phe Ala Tyr Trp Gly Gln Gly Thr

100

105

110

Thr Val Thr Val Ser Ser

115

<210> 290

<211> 336

<212> DNA

<213> Homo sapiens

<400> 290

gatattgtga tgactcagtc tccactctcc ctgcccgtca cccctggaga gccggcctcc 60

atctcctgca ggtctagtaa gagtctcctg catagtaatg gcaacactta cttgtattgg 120

ttcctgcaga agccagggca gtctccacag ctccctgatct atcggatgtc caaccttgcc 180

tcaggggtcc ctgacaggtt cagtggcagt ggatcaggca cagatttac actgaaaatc 240

agcagagtgg aggctgagga ttttgggtt tattactgca tgcaacatat agaatatcct 300

tttacgttcg gccaaggggac caaactggaa atcaaa 336

<210> 291

<211> 112

<212> PRT

<213> Homo sapiens

<400> 291

Asp Ile Val Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Pro Gly

1 5 10 15

Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Lys Ser Leu Leu His Ser

20 25 30

Asn Gly Asn Thr Tyr Leu Tyr Trp Phe Leu Gln Lys Pro Gly Gln Ser

35 40 45

Pro Gln Leu Leu Ile Tyr Arg Met Ser Asn Leu Ala Ser Gly Val Pro

50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr Leu Lys Ile

65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln His

85 90 95

Ile Glu Tyr Pro Phe Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys

100 105 110

<210> 292

<211> 1572

<212> DNA

<213> Homo sapiens

<400> 292

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ggaaagggtc ttgagtggtt tggacggatt tatctggatg atggagaaac tatctacaat	240
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ccacggctcc tgcgttatcg gatgtccaaac cttgcctcag gggccctgatc caggttcagt	660
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 ctccctgcata gtaatggcaa cacttacttg tattggttcc agcagaagcc agggcaggct 1380
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 ggcagtggtt caggcacagc ttttacactg aaaatcagca gagtgaggc tgaggatgtt 1500
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<210> 293

<211> 524

<212> PRT

<213> Homo sapiens

<400> 293

Met Asp Trp Thr Trp Arg Phe Leu Phe Val Val Ala Ala Ala Thr Gly

1 5 10

15

Val Gln Ser Gln Val Gln Leu Val Gln Ser Gly Pro Glu Val Lys Lys

20 25

30

Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe

35

40

45

Thr Asn Ser Trp Met Asn Trp Val Arg Gln Arg Pro Gly Lys Gly Leu

50

55

60

Glu Trp Ile Gly Arg Ile Tyr Pro Gly Asp Gly Glu Thr Ile Tyr Asn

65

70

75

80

Gly Lys Phe Arg Val Arg Val Thr Ile Thr Ala Asp Glu Ser Thr Ser

85

90

95

Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val

100

105

110

Tyr Tyr Cys Ala Arg Gly Tyr Asp Asp Tyr Ser Phe Ala Tyr Trp Gly

115

120

125

Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly Ser Gly Gly

130

135

140

Gly Gly Ser Gly Gly Ser Asp Ile Val Met Thr Gln Ser Pro

145

150

155

160

Leu Ser Leu Pro Val Thr Pro Gly Glu Pro Ala Ser Ile Ser Cys Arg

165

170

175

Ser Ser Lys Ser Leu Leu His Ser Asn Gly Asn Thr Tyr Leu Tyr Trp

180

185

190

Phe Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu Ile Tyr Arg Met

195

200

205

Ser Asn Leu Ala Ser Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser

210

215

220

Gly Thr Ala Phe Thr Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Val

225

230

235

240

Gly Val Tyr Tyr Cys Met Gln His Ile Glu Tyr Pro Phe Thr Phe Gly

245

250

255

Gln Gly Thr Lys Leu Glu Ile Lys Gly Gly Gly Ser Gly Gly Gly

260

265

270

Gly Ser Gly Gly Ser Gln Val Gln Leu Val Gln Ser Gly Pro

275

280

285

Glu Val Lys Lys Pro Gly Ala Ser Val Lys Val Ser Cys Lys Ala Ser

290

295

300

Gly Tyr Thr Phe Thr Asn Ser Trp Met Asn Trp Val Arg Gln Arg Pro

305

310

315

320

Gly Lys Gly Leu Glu Trp Ile Gly Arg Ile Tyr Pro Gly Asp Gly Glu

325

330

335

Thr Ile Tyr Asn Gly Lys Phe Arg Val Arg Val Thr Ile Thr Ala Asp

340

345

350

Glu Ser Thr Ser Thr Ala Tyr Met Glu Leu Ser Ser Leu Arg Ser Glu

355

360

365

Asp Thr Ala Val Tyr Tyr Cys Ala Arg Gly Tyr Asp Asp Tyr Ser Phe

370

375

380

Ala Tyr Trp Gly Gln Gly Thr Thr Val Thr Val Ser Ser Gly Gly Gly

385

390

395

400

Gly Ser Gly Gly Ser Gly Gly Ser Asp Ile Val Met

405

410

415

Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Pro Gly Glu Pro Ala Ser

420

425

430

Ile Ser Cys Arg Ser Ser Lys Ser Leu Leu His Ser Asn Gly Asn Thr

435

440

445

Tyr Leu Tyr Trp Phe Gln Gln Lys Pro Gly Gln Ala Pro Arg Leu Leu

450

455

460

Ile Tyr Arg Met Ser Asn Leu Ala Ser Gly Val Pro Asp Arg Phe Ser

465

470

475

480

Gly Ser Gly Ser Gly Thr Ala Phe Thr Leu Lys Ile Ser Arg Val Glu
 485 490 495

Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln His Ile Glu Tyr Pro

500

505

510

Phe Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 515 520

<210> 294

<211> 354

<212> DNA

<213> Homo sapiens

<400> 294

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cctggaaagg gtcttgagtg gattggacgg atttatcctg gagatggaga aactatctac 180

aatggaaat tcagggtcag agtcacgatt accgcggacg aatccacgag cacagcctac 240

atggagctga gcagcctgag atctgaggac acggccgtgtt attactgtgc gagaggctat 300

gatgattact cgtttgccta ctggggccag ggaaccacgg tcaccgtctc ttca 354

<210> 295

<211> 118

<212> PRT

<213> Homo sapiens

<400> 295

Gln Val Gln Leu Val Gln Ser Gly Pro Glu Val Lys Lys Pro Gly Ala

1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr Asn Ser

20 25 30

Trp Met Asn Trp Val Arg Gln Arg Pro Gly Lys Gly Leu Glu Trp Ile

35 40 45

Gly Arg Ile Tyr Pro Gly Asp Gly Glu Thr Ile Tyr Asn Gly Lys Phe

50 55 60

Arg Val Arg Val Thr Ile Thr Ala Asp Glu Ser Thr Ser Thr Ala Tyr

65 70 75 80

Met-Glu-Leu-Ser-Ser-Leu-Arg-Ser-Glu-Asp-Thr-Ala-Val-Tyr-Tyr-Cys

85 90 95

Ala Arg Gly Tyr Asp Asp Tyr Ser Phe Ala Tyr Trp Gly Gln Gly Thr

100 105 110

Thr Val Thr Val Ser Ser

115

<210> 296

<211> 336

<212> DNA

<213> Homo sapiens

<400> 296

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tcaggggtcc ctgacaggtt cagtggcagt ggatcaggca cagttttac actgaaaatc 240

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tttacgttcg gccaagggac caaaactggaa atcaaa 336

<210> 297

<211> 112

<212> PRT

<213> Homo sapiens

<400> 297

Asp Ile Val Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Pro Gly

1

5

10

15

Glu Pro Ala Ser Ile Ser Cys Arg Ser Ser Lys Ser Leu Leu His Ser

20

25

30

Asn Gly Asn Thr Tyr Leu Tyr Trp Phe Gln Gln Lys Pro Gly Gln Ala
 35 40 45

Pro Arg Leu Leu Ile Tyr Arg Met Ser Asn Leu Ala Ser Gly Val Pro
 50 55 60

Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Ala Phe Thr Leu Lys Ile
 65 70 75 80

Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys Met Gln His
 85 90 95

Ile Glu Tyr Pro Phe Thr Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 100 105 110

<210> 298

<211> 30

<212> PRT

<213> Homo sapiens

<400> 298

Gln Val Gln Leu Val Gln Ser Gly Pro Glu Val Lys Lys Pro Gly Ala
 1 5 10 15

Ser Val Lys Val Ser Cys Lys Ala Ser Gly Tyr Thr Phe Thr
 20 25 30

<210> 299

<211> 14

<212> PRT

<213> Homo sapiens

<400> 299

Trp Val Arg Gin Arg Pro Gly Lys Gly Leu Glu Trp Ile Gly

1 5 10

<210> 300

<211> 32

<212> PRT

<213> Homo sapiens

<400> 300

Arg Val Thr Ile Thr Ala Asp Glu Ser Thr Ser Thr Ala Tyr Met Gin

1 5 10 15

Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg

20 25 30

<210> 301

<211> 11

<212> PRT

<213> Homo sapiens

<400> 301

Trp Gly Gin Gly Thr Thr Val Thr Val Ser Ser

1 5 10

<210> 302

<211> 23

<212> PRT

<213> Homo sapiens

<400> 302

Asp Ile Val Met Thr Gln Ser Pro Leu Ser Leu Pro Val Thr Pro Gly

1 5 10 15

Glu Pro Ala Ser Ile Ser Cys

20

<210> 303

<211> 15

<212> PRT

<213> Homo sapiens

<400> 303

Trp Phe Leu Gln Lys Pro Gly Gln Ser Pro Gln Leu Leu Ile Tyr

1 5 10 15

<210> 304

<211> 32

<212> PRT

<213> Homo sapiens

<400> 304

Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr

1 5 10 15

Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys
 20 25 30

<210> 305

<211> 10

<212> PRT

<213> Homo sapiens

<400> 305

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
 1 5 10

<210> 306

<211> 32

<212> PRT

<213> Homo sapiens

<400> 306

Arg Val Thr Ile Thr Ala Asp Glu Ser Thr Ser Thr Ala Tyr Met Glu
 1 5 10 15

Leu Ser Ser Leu Arg Ser Glu Asp Thr Ala Val Tyr Tyr Cys Ala Arg
 20 25 30

<210> 307

<211> 15

<212> PRT

<213> Homo sapiens

<400> 307

Trp Phe Gin Gin Lys Pro Gly Gin Ala Pro Arg Leu Leu Ile Tyr

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<210> 308

<211> 32

<212> PRT

<213> Homo sapiens

<400> 308

Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Thr Ala Phe Thr

1

5

10

15

Leu Lys Ile Ser Arg Val Glu Ala Glu Asp Val Gly Val Tyr Tyr Cys

20

25

30